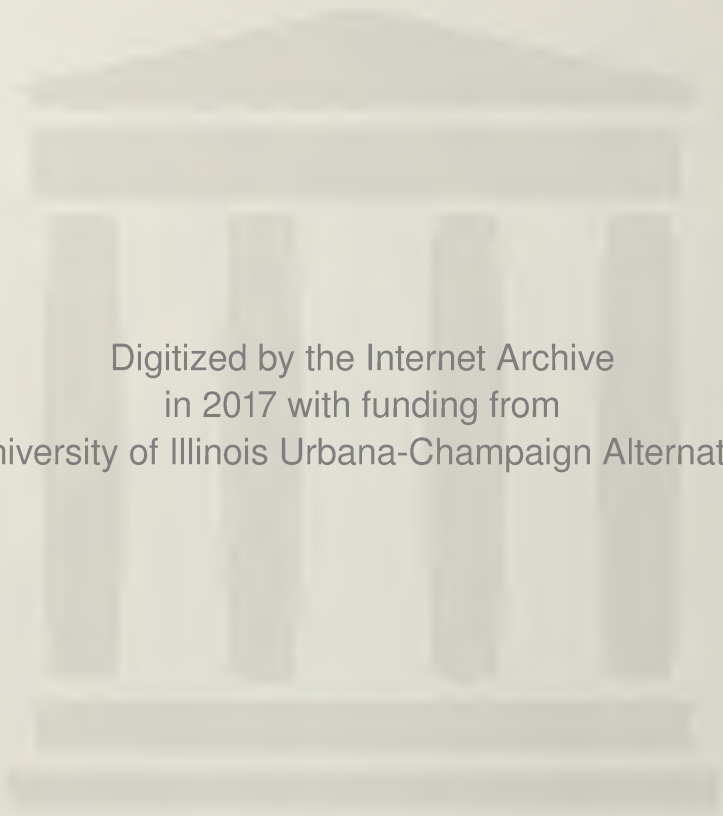


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DEVELOPMENT IMPACT STUDY

FINAL REPORT



STATE OF ILLINOIS
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FINAL REPORT
OF THE
ACCELERATOR
DEVELOPMENT
IMPACT STUDY

Prepared for the Department of Business and Economic
Development, State of Illinois, by
Real Estate Research Corporation

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a Federal grant from the Department of Housing and Urban
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amended.

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Cover design incorporates a perspective and an elevation of Accelerator Master
Plan as drawn by a computer. Drawings courtesy of DUSAF.



ABSTRACT

TITLE: Final Report of the Accelerator Development Impact Study

AUTHOR: Department of Business and Economic Development,
State of Illinois, and Real Estate Research Corporation

SUBJECT: Summary of findings, conclusions, and suggestions regarding impact
of Accelerator on Du Page and Kane counties in Illinois

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ABSTRACT: This report summarizes nine preliminary reports regarding: (1) past trends and present conditions of the population and economy of Du Page and Kane counties which are in the western portion of the Chicago Metropolitan Area; (2) local government responsibilities to regulate development and provide facilities and services; (3) trends in the provision of facilities and services in the two counties; (4) characteristics of the Accelerator which are most relevant to development; (5) three alternative sets of projections of population (by characteristics), employment growth and land use, transportation and public facility requirements; (6) analysis of costs and benefits of potential development; (7) suggested planning and action strategy --- primarily related to (a) State activity in areas of dissemination of information, planning assistance, and provision of facilities and services and (b) local government co-ordination, co-operation, and concentration of development-related functions.

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FOREWORD

The decision to locate the National Accelerator Laboratory on a 6,800-acre site straddling the Du Page County-Kane County line has focused strong development attention on this already rapidly urbanizing part of the Chicago Metropolitan Area. The State of Illinois, through the Department of Business and Economic Development, recognizes that State and local leaders, developers, and others need a solid base of information regarding the Accelerator and its likely impact in order to properly respond to development proposals and to provide the facilities and services required by growth. Therefore, the State decided to sponsor a Development Impact Study with financial assistance from the U.S. Department of Housing and Urban Development.

Real Estate Research Corporation was retained by the State to conduct a wide range of studies relating to the development impact of the Accelerator. This document is a summary of the series of nine reports prepared by this firm. The final chapter of this report was prepared by the staff of the Department of Business and Economic Development.

This Impact Study was started 16 months ago when Otto Kerner was Governor; it continued during the governorship of Samuel H. Shapiro; and has been completed under Governor Richard B. Ogilvie. This continuity of purpose and effort is indicative of the ongoing concern which the last three Governors of the State of Illinois have shown for achieving quality development, as well as identifying and capitalizing on economic opportunities.

The work of Real Estate Research Corporation was substantially aided by the generous provision of ideas and information by literally hundreds of Federal, State and local officials, civic leaders, realtors and developers, planners, scientists, academicians, utility executives, industrialists, and other businessmen. While these participants are too numerous to mention by name, their individual and collective contributions are acknowledged and appreciated. Special mention should be given to the Accelerator Impact Study Technical Committee --- a group of State and local planners and planning consultants which was created by the Department of Business and Economic Development to guide and review the work of Real Estate Research Corporation. The members of this committee are listed on the last page of this report.

The past and present of Du Page and Kane counties have been outstanding in most respects. The decision to locate the Accelerator there is largely attributable to the high quality of the area. The future holds much promise. The Impact Study is intended to help decision-makers choose wisely for the future.

It is the hope of the State that this Impact Study will be extensively used as a guideline for what is likely to happen in terms of population and economic growth under alternative sets of circumstances and what can be done to foster the attainment of desired objectives. However, the Impact Study is not intended to supersede or supplant any ongoing planning and research programs. Rather, it is an extra infusion of information and guidance to augment and strengthen continuing efforts.

I. NATURE OF COMPREHENSIVE DEVELOPMENT IMPACT STUDY

The purpose of the Comprehensive Development Impact Study has been to assist those connected with the Accelerator Study Area to better plan for the future by enabling them to take maximum advantage of the new facility in a rational, orderly, and co-ordinated way.

Through this study, local governments gain a better understanding of the services and investments they need to provide, how their revenues will be affected, what will happen to their tax bases, and how they can preserve and enhance the quality of their environment. Private developers and utility companies obtain an idea of the size of the potential market that will be created by the Accelerator. State government learns what investment requirements it must make in order to provide appropriate facilities and services. Also, the State learns how to maximize the Accelerator's long-run development impact by providing an effective program of information dissemination. The Federal government gains valuable knowledge in how its facility affects a major area. In terms of planning for other Federal facilities in other parts of the country, the experience derived from establishment of the Accelerator serves as a development impact prototype.

A. Specific Objectives of the Accelerator Impact Study

The over-all Accelerator Impact Study was designed to accomplish the following specific objectives:

1. To identify the specific types and estimated quantities of needs and demands which the Accelerator will create. For example, the types of housing (i.e., owner-renter mix, costs, sizes) and the amount of each type.
2. To estimate several alternative spatial distributions (such as concentration near the Accelerator versus dispersal) of needs and demands based on explicit assumptions and the most likely of these alternatives.
3. To identify the specific types and quantities of resources required to satisfy those needs and demands.
4. To suggest (a) types of programs and (b) mechanisms and procedures for translating the findings of these analyses into an action strategy. These suggestions then serve as guidelines for taking maximum advantage of the opportunities presented by the Accelerator.

B. Preliminary Report Series

The following preliminary reports were published:

- I. Past Trends and Present Conditions of the Population and Economy in Accelerator Study Area, July 1968
- II. Analysis of Local Government Development Responsibilities in the Accelerator Study Area, August 1968
- III. Past Trends in the Development of Facilities and Services, August 1968
- IV. Characteristics of Accelerator Related to Development Impact, July 1968
- V. Projections of the Population and Economy with and without Accelerator, December 1968 (two volumes)
- VI. Projections of Land Use and Public Facility Requirements with and without Accelerator, March 1969
- VII. Identification and Quantification of Costs and Benefits, March 1969
- VIII. Suggested Planning and Action Strategy, June 1969
- IX. Technical Report on Methodology, March 1969

The tenth report in the series is this Final Report. It is basically a compilation of the summaries of the first eight preliminary reports.

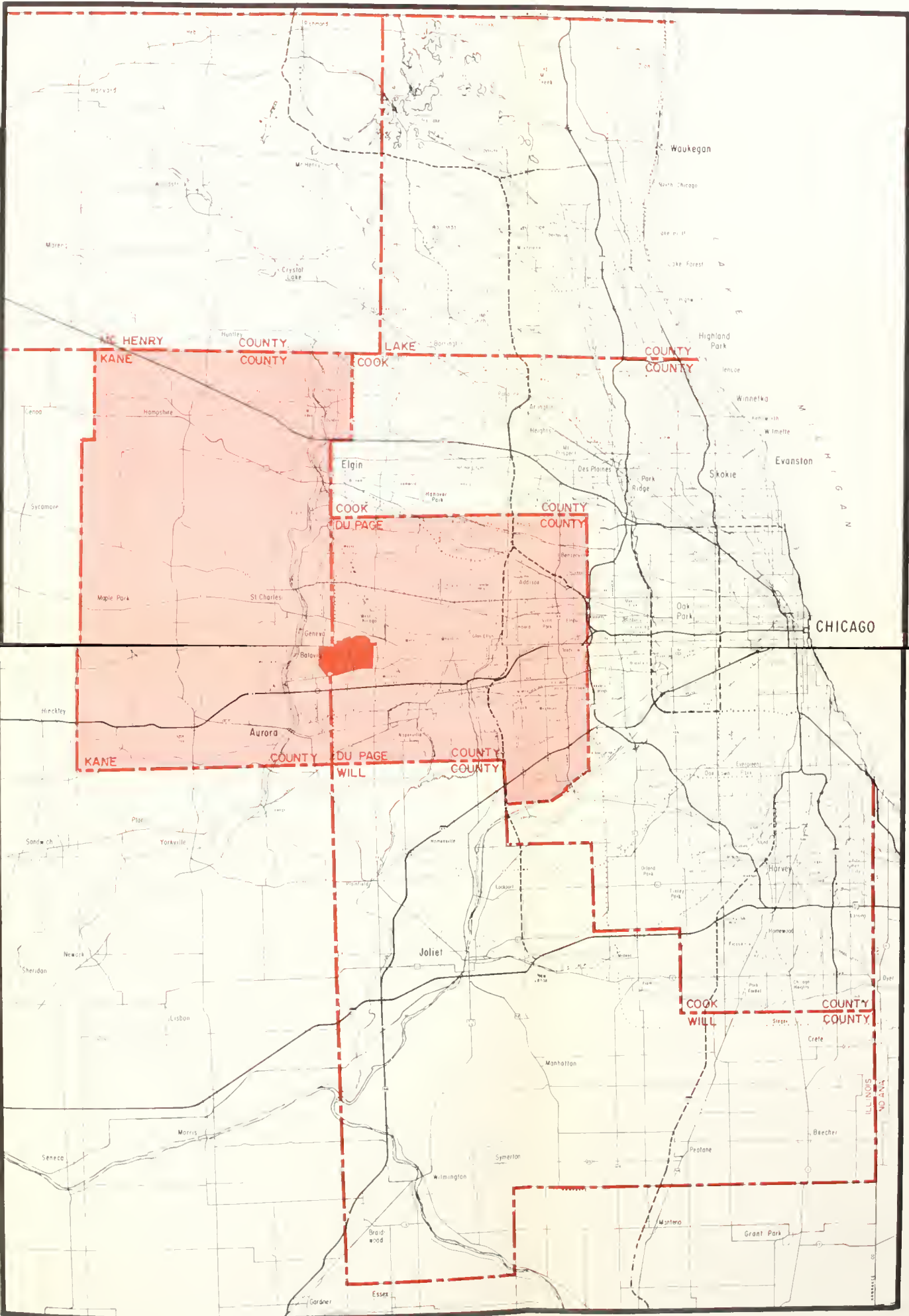
C. Delineation of the Accelerator Study Area

The Study Area was defined as that area which would be significantly affected by the Accelerator; that is, the area which must contemplate major changes in planning and development programs. Moreover, boundaries were defined in such a way as to facilitate the collection and collation of data and the implementation of development strategies. Industrial and commercial land-use patterns, transportation accessibility, population concentrations, and political boundaries were considered. Map 1 indicates the general location of the Study Area and the location of the Accelerator site within the Chicago Metropolitan Area. Map 2 delineates the Study Area more exactly. The Study Area corresponds to the

boundaries of Du Page and Kane counties. This relatively large area was selected because collection of data was more convenient and because local authorities who are accustomed to deal with county-wide problems would find the results and the projections more useful.

Significant impacts of the Accelerator will occur somewhat beyond Du Page and Kane counties into adjoining counties and townships. However, the bulk of the impact will occur in Du Page and Kane counties. The "spill-over" impact beyond Du Page and Kane counties was considered in general terms in early stages of the study.

ACCELERATOR STUDY AREA IN CONTEXT OF CHICAGO AREA



 ACCELERATOR LABORATORY SITE  COUNTY BOUNDARIES
 ACCELERATOR IMPACT STUDY AREA



BIG ROCK LISTS

~~DOWNERS GROVE~~

DOWNERS

GROVE

WESTMONT

HILLS

HINSDALE

WILLOWBROOK

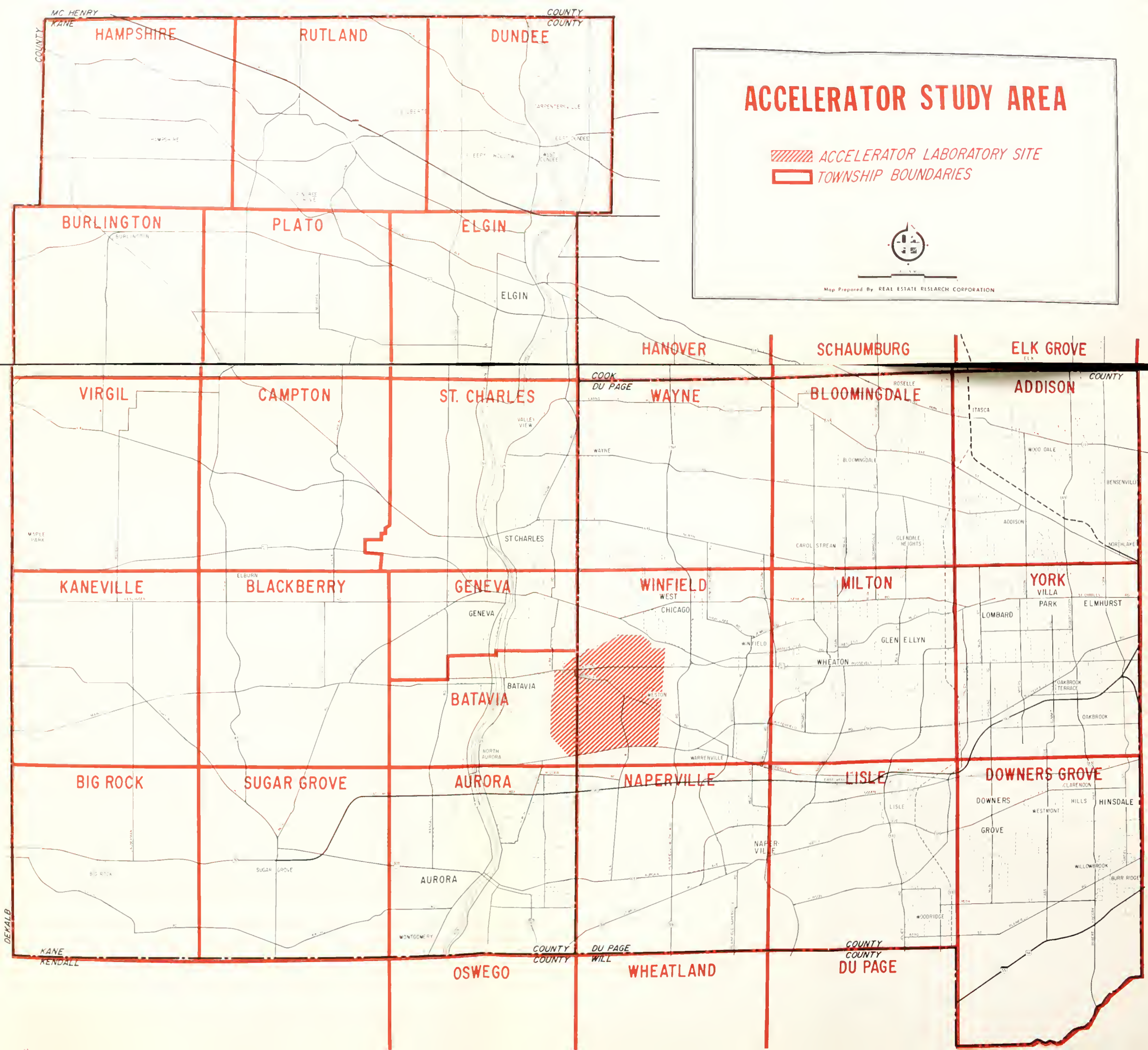
BURR RIDGE

WOODRIDGE

~~KANE~~
~~KENDALL~~

COUNTY
COUNTY
DU PAGE

DEKALB



II. SUMMARY OF CONCLUSIONS AND SUGGESTIONS

Throughout the Development Impact Study, three sets of independent projections have been maintained. The magnitudes of the projections are important primarily in that they indicate the alternative levels of population, job opportunities, personal income, land requirements, facility requirements, etc. The differences between the projections indicate the expected impact of the Accelerator alone (difference between A and B projections) and the impact of the Accelerator in conjunction with supportive growth catalysts (difference between A and C projections).^{1/}

A. General Conclusions on Accelerator Impact

The major quantitative projections of the Impact Study are summarized below. Related to these projections are the following major conclusions:

1. Du Page and Kane counties would continue to grow very rapidly in both population and economic activity even if the Accelerator were not located there.
2. The difficulties of providing for the public facility and service needs of this rapidly growing area, already substantial, are likely to be greater in the future (even without the Accelerator).
3. The Accelerator will have a significant impact on most aspects of development, but this impact will be diffused to the extent that it will not be readily apparent to the casual observer except near the site itself.
4. The use of 6,800 acres of land for the Accelerator affects more the nature of the development potential in Winfield and Batavia townships than it does either the quantities of potential population or economic activities. That is, if the Accelerator had not absorbed these 6,800 acres, this land would have been largely appropriate for single-family housing development. As such, it could eventually have accommodated perhaps 20,000 housing units with related commercial, institutional, and public facilities.

With the Accelerator, it is expected that this development will be displaced to adjoining areas, probably at somewhat higher densities. Thus, Winfield and Batavia townships probably have lost little over-all potential population and economic activities because of the Accelerator since the opportunities exist to provide for more intensive development around the Accelerator site (if desired).

^{1/} See Chapter V, Section A, below, for identification of these growth catalysts and general differences among alternative sets of projections.

5. The 2,000 personnel projected to be associated with the Accelerator by 1974 will have housing and service needs roughly comparable to others already living or likely to live in this area in most respects. Moreover, these people probably will choose to live in a larger number of communities rather than concentrate in a few. That is, there will be little perceptible demand for housing by Accelerator personnel except perhaps in communities adjoining the site where some concentrations might develop.
6. Because the Accelerator scientists and high-level technicians are likely to be somewhat more academically and internationally oriented, their cultural and educational desires may be significantly different from the norm in Du Page and Kane counties. The existence of an average of 300 visiting scientists (staying for periods of a day to a year) probably will have a noticeable effect on commercial activities, such as lodging, restaurants, and banking.

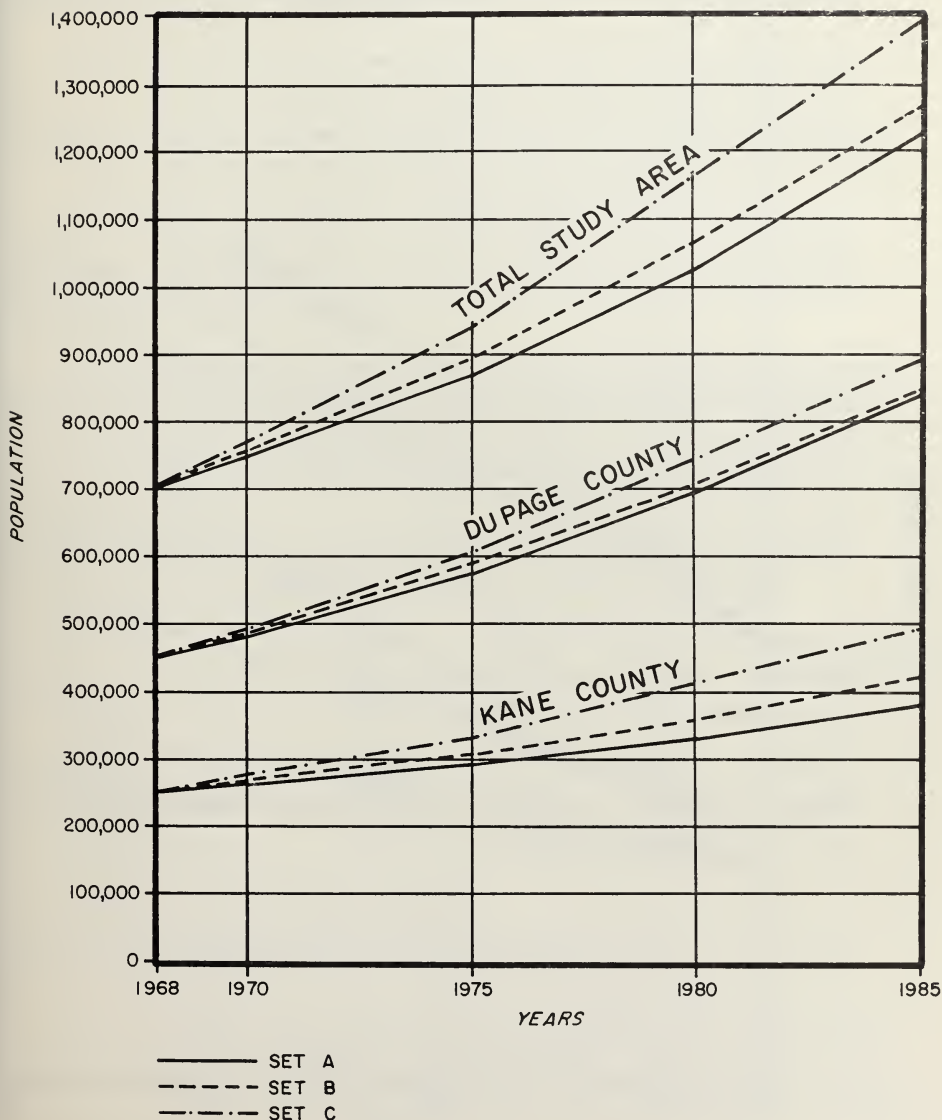
B. Accelerator Impact on Population and Employment

The development of the Accelerator will cause population in the Study Area to increase by 42,500 persons between 1968 and 1985. This growth is related to the expected growth of Accelerator employment and a nominal amount of ancillary industry which will locate in the Study Area as a result of the Accelerator development. The growth of these activities will cause an increase of 20,000 jobs of all types in the Study Area by 1985. Population and employment projections are summarized in Table 5 on Page 35 and by the charts on the following pages.

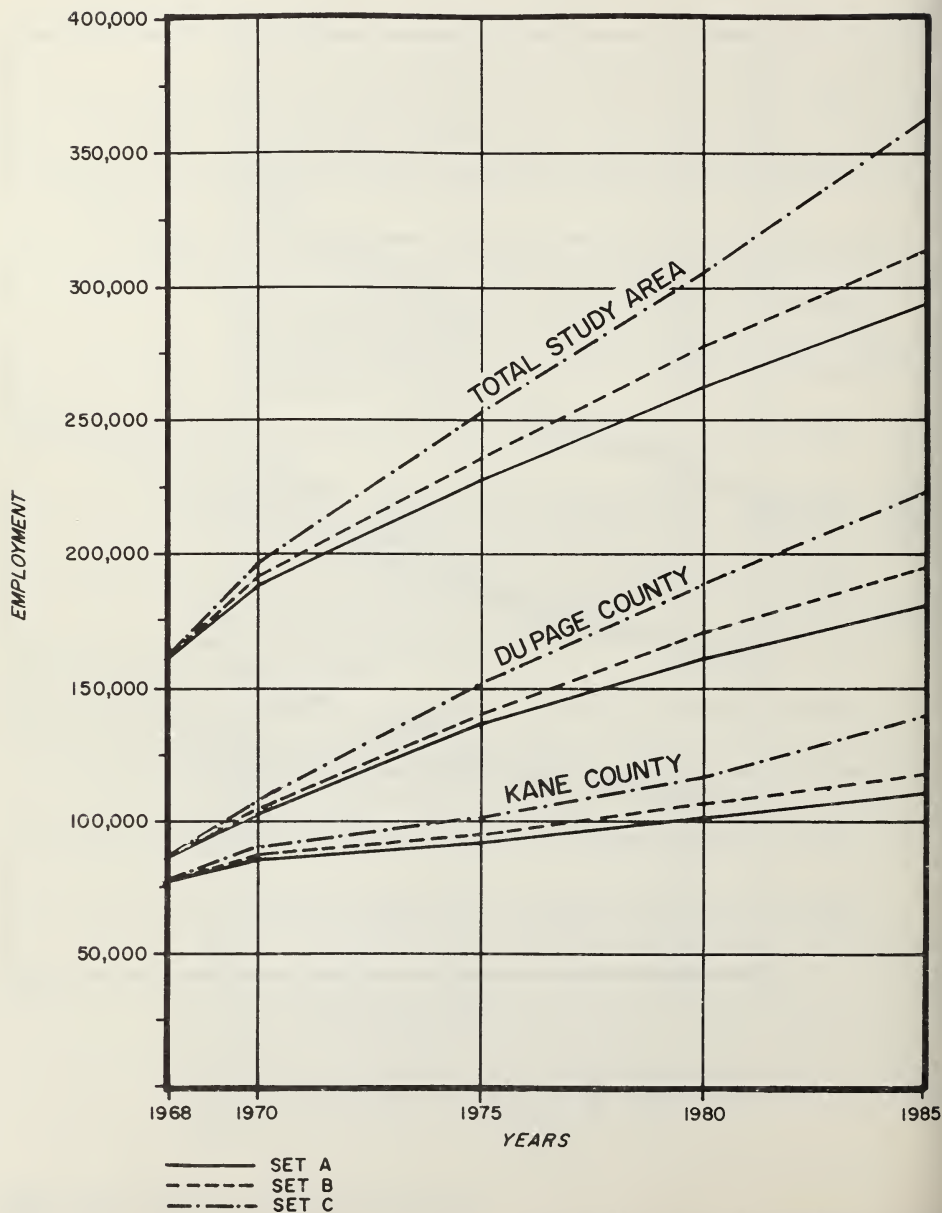
Because the Accelerator and the related ancillary industries are technologically oriented, they will have a significant impact on the employment mix in the Study Area. In 1965 the proportion of industrial employment engaged in research and development and other technological activities was seven percent. By 1985 this proportion will increase to 14 percent of all employment in the Study Area, primarily because of the development of the Accelerator.

If the efforts are made as required to take advantage of the development opportunities presented by the Accelerator in conjunction with other growth catalysts, it is expected that the Study Area's population will increase by an additional 123,300 persons over the projection described above (Set C projection). These maximum development efforts would cause substantial increases in research and development and nonmanufacturing industries. Given this assumption, total employment in the Study Area would increase by 49,000 over what it would be given the Accelerator alone. Thus, maximum planning and development efforts, coupled with the growth of the Accelerator, could create as many as 69,000 job opportunities in the Study Area by 1985.

ALTERNATIVE POPULATION FORECASTS, 1968-1985



ALTERNATIVE TOTAL EMPLOYMENT FORECASTS, 1968-1985



C. Accelerator Impact on Land Use

Table 7 (on Page 59) summarizes the estimates of land requirements by type. Generally, given the Accelerator alone (Set B projection), about five to ten percent more land in the Study Area will be converted to urban use by 1985 than would be without the Accelerator. Assuming both the Accelerator and the realization of the other growth catalysts (Set C projection), the land requirements for private development purposes generally would be about ten to 20 percent more than it would be assuming the Accelerator but without other improvements. Recreational, institutional, and transportation land requirements would be increased on the order of five to seven percent. (In using Table 7, it is important to note that the 6,800-acre Accelerator site is classified as institutional.)

Without the Accelerator, Study Area urban land requirements would increase by 65,000 acres by 1985. The Accelerator site alone adds ten percent to that increase. It is expected that another 8,000 acres of land will be required (in addition to the site) because of the Accelerator. Land requirements given the Accelerator and other growth catalysts will add nearly 17,000 acres on to those required given the Accelerator alone. These estimates, in tabular form, are as follows:

Table 1. PROJECTED 1968-1985 INCREASE IN URBAN LAND

	1968 Urban Land	1968-1985 Increase		
		Without Accelerator A	With Accelerator B	With Accelerator and Other Growth Catalysts C
Total Study Area	<u>103,600</u>	<u>65,300</u>	<u>80,000</u>	<u>96,700</u>
Du Page County	69,100	48,700	57,900	65,000
Kane County	34,500	16,600	22,100	31,700

Source: Real Estate Research Corporation.

D. Accelerator Impact on Facility Requirements

It is expected that there will continue to be substantial increases in the demand for public facilities and services in the Study Area. These increases are related to projected increases in population as well as increases in the level of services. In a number of cases, the percentage increases in amounts of public facilities substantially exceed the percentage increases in population.

The reasons for this are: (1) the Study Area overall has not provided facilities and services at the levels of generally accepted standards, and (2) the projections assume that somewhat higher service levels will be met (this is particularly true in the Set C (maximum) projection).

1. Facility Requirements without Accelerator

In recent years, the provision of school facilities has been the most pressing need in the Study Area. While the percentage increases in these facilities are not expected to be as great in the future as in the past, the increased demand for school classrooms will continue to be significant. In 1968 there were an estimated 4,696 elementary and 2,012 secondary school classrooms in the Study Area. Increases in the number of school children between 1968 and 1985 are expected to increase the total number of elementary school classrooms to 8,732 and the number of secondary classrooms to 4,278. These represent percentage increases of 86 percent and 113 percent, respectively. The number of health-care facilities in the Study Area is expected to experience the largest percentage increase during the projection period. Short-term hospital beds are expected to increase by 153 percent, to about 5,511. Long-term hospital and nursing home beds are projected to increase by 121 percent, to about 4,899. Population growth and rising crime rates are expected to create the demand for a 116 percent increase in police units, from 566 in 1968 to 1,225 in 1985. Sewage treatment capacity is projected to increase from 58.22 million gallons per day to 106.15 million gallons per day, or 82 percent; while water treatment and distribution capacity is expected to increase by 59 percent --- from 74.95 to 119.13 million gallons per day.

2. Facility Requirements with Accelerator

The population growth which is directly and indirectly attributable to the Accelerator will create a relatively small increase in the demand for public facilities. A projected increase of 417 classrooms will be needed by 1985. An additional 362 short- and long-term hospital beds and 42 police units will be required. Sewage treatment capacity in the Study Area will need to increase by 4.08 million gallons per day, while water treatment and distribution capacity will need to increase by 5.02 million gallons per day.

3. Facility Requirements with Accelerator and Other Growth Catalysts

Should the State undertake development and promotion of other growth catalysts in the Study Area as well as the Accelerator, the provision of

adequate public facilities would be an important ingredient to the creation of a high-quality urban environment. Based upon population forecasts associated with maximum development, it is expected that there will be substantial increases in public facilities. By 1985 school classrooms are expected to increase by 1,729 over the number projected without the development of the Accelerator. The number of short- and long-term hospital beds is expected to increase by 2,801, while the number of police units is expected to increase by 443. Sewage treatment capacity is expected to increase by 15.26 million gallons daily, and water treatment and distribution capacity is projected to increase by 18.13 million gallons daily over the projection without the Accelerator.

E. Accelerator Impact on Local Government Costs and Revenues

1. Operating Revenues and Expenditures

Local government in the Study Area has been able to absorb increases in expenditures with less strain on the local tax base than in most other suburban areas. In 1965 per capita personal income in the Study Area was \$3,100 as compared with an average of \$2,732 for 38 suburban SMSA's. Direct general expenditures were seven percent and local taxes were five percent of personal income in the Study Area. For the 38 suburban SMSA's, direct general expenditures were ten percent and local taxes were seven percent of personal income.

Because of the expected substantial increases in local government expenditures during the projection period to 1985, it is expected that "revenue gaps" would occur if the present tax rates and types of taxes were not changed. Given these unlikely circumstances, there would be a financial disparity of about \$113 to \$125 between revenues and expenditures in Du Page County by 1985 (this range applies with or without the Accelerator). In Kane County, there will be a gap of \$112 to \$120 by 1985.

These projections imply that certain changes in revenue sources or tax rate structures must be made during the projection period if the financial budgets are to remain in balance. However, these adjustments can be made without straining the local tax base. That is, if per capita local government revenues are projected as a constant proportion of per capita income, the resulting increase in revenues would just about cover expenditures in each of the two counties. Thus, it appears neither Du Page County nor Kane County will experience any severe fiscal imbalances during the projection period.

As Table 2 on the following page shows, the impact of the Accelerator --- with or without other catalysts of growth --- will be insignificant in terms of per capita revenues and expenditures in the Study Area.

Table 2. PER CAPITA REVENUES AND EXPENDITURES OF
LOCAL GOVERNMENTS FOR DU PAGE AND
KANE COUNTIES, 1967 AND 1985

		1985		With the Accelerator and Other Growth Catalysts C
	1967	Without the Accelerator A	With the Accelerator B	
<u>Du Page County</u>				
Total Revenues (assuming constant tax rates)	\$262.82	\$286.05	\$294.76	\$297.76
Total Revenues (assuming revenues as a constant proportion of income)	-	\$379.25	\$379.44	\$380.28
Total Expenditures	\$217.02	\$410.58	\$410.58	\$410.58
Per Capita Public Develop- ment Costs ^{1/}	\$ 83.74	\$ 68.59	\$ 73.73	\$ 84.99
<u>Kane County</u>				
Total Revenues (assuming constant tax rates)	\$228.90	\$253.29	\$251.96	\$260.14
Total Revenues (assuming revenues as a constant proportion of income)	-	\$338.18	\$339.61	\$342.22
Total Expenditures	\$209.45	\$371.82	\$371.82	\$371.82
Per Capita Public Develop- ment Costs ^{1/}	\$ 46.32	\$ 47.63	\$ 62.64	\$ 82.71

Source: Real Estate Research Corporation.

^{1/} Also called capital expenditures in text.

Establishment of the Accelerator will increase per capita revenues by only three percent in Du Page County. If a maximum development effort is made to take advantage of the opportunities associated with the Accelerator, per capita revenues will increase by only four percent.

In Kane County, the impact of the Accelerator on per capita revenues will be slightly negative. Per capita revenues are expected to decline by about one-half of one percent over the per capita revenues projected if the Accelerator is not developed. However, if a maximum effort is made to develop and promote the Study Area, per capita revenues are expected to increase by three percent.

2. Capital Expenditures and Debt

Increased growth stemming from the development of the Accelerator is expected to cause only a modest increase in capital expenditures. In 1985 the annual average per capita expenditure for public developments will increase by \$5.14, or eight percent, over the projections without the Accelerator. This impact will bear most heavily upon Kane County, where per capita capital expenditures are projected to increase by \$15.01, or 32 percent. Per capita capital expenditures in Du Page County will increase only slightly, rising by only \$2.44, or three percent.

If a maximum development effort is made in the Study Area, it is expected that the resulting increase in population and improved levels of services will cause a significant increase in capital expenditures in Kane County. By 1985 the average annual per capita expenditure for public developments will increase by \$35.08, or 74 percent, over the projections without the Accelerator. Growth associated with the development of the Accelerator and other growth catalysts will not have as great an impact on Du Page County because of the relatively higher level of services which exist there now. With maximum development, the increase in per capita expenditures will be \$9.21, or 12 percent greater than if the Accelerator were not developed.

Even under the assumption of maximum development, there does not appear to be any significant financial constraint on growth in the Study Area. More importantly, the maximum growth projection can be attained while providing a higher level of public services (at least in terms of financial capability).

Local government per capita debt-to-income ratios in both Kane and Du Page counties will be lower than those for 38 SMSA's in 1965. Per capita debt for 38 suburban SMSA's in 1965 was \$470, or 18 percent of per capita income. This compares with only \$302, or eight percent, in the Study Area. By 1985 the per capita debt-to-income ratio in both Du Page and Kane counties is projected to be 15 percent.

F. Suggested Planning and Action Strategy

The suggestions made by Real Estate Research Corporation are directed at actions which would foster economic development in Du Page and Kane counties. While these suggested actions probably would not be incompatible with the general best interest of the Study Area, it is important to bear in mind that the suggestions are oriented to explicitly stated economic development goals and objectives.

1. Goals and Objectives

The primary goal to which the suggestions are directed is the maximization of the opportunities which the Accelerator presents to improve the economy of the Study Area and the State. Related goals pertain to: (a) a high-quality physical environment; (b) high-quality education at all levels; (c) a balanced housing market; and (d) high levels of government operation well worth the taxes paid.

2. Nature of Suggested Actions

Suggested State actions to help achieve the economic development-oriented goals and objectives are concentrated on three types of activity:

- a. Planning information and advice;
- b. State planning assistance; and
- c. Development of State facilities and services.

Suggested location actions focus on comprehensive long-range planning and intergovernmental co-operation.

3. Planning Information and Advice Program

The essence of this suggested program is that the State, working with local government and development groups, would engage in a set of activities designed to foster the growth of research and development activities in the Study Area. The suggested activities are intended to be comprehensive, yet sharply focused on capitalizing on the high-quality attributes of the Study Area.

4. State Planning Assistance Program

The State, working directly and through the Northeastern Illinois Planning Commission, should continue to foster comprehensive, co-ordinated, long-range planning by local governments in the Study Area. The State should do this through (a) vastly improved State planning; (b) technical assistance (e.g., sponsorship of conferences, preparation of manuals); and (c) continued financial assistance.

5. Development of Facilities and Services

Suggestions are made regarding those State facilities and services which are most important to economic development. These include: (a) transportation; (b) higher education; (c) open space and recreation; and (d) water resources. The suggested actions are directed at making improvements to what are basically good facilities and services at this time. Major increases in public expenditures are required to make these improvements --- it is believed that these expenditures are justified.

The reader is referred to tables 10 through 13 in Chapter X for a concise summary of the suggested facility and service improvements. Clearly, these are not the only improvements needed in the Study Area. They are, however, the ones considered to be most desirable in terms of the economic development goals and objectives.

6. Establishing Co-operative Action Programs

Past growth pressures in the Study Area have not been adequately coped with by the large number of small, autonomous local governments in the Study Area. As the pressures continue to mount, many units of government are likely to have increasing difficulty in regulating development and providing satisfactory facilities and services. Greatly increased and improved co-operative action is needed to enable local governments to better handle the growth pressures.

The specific suggestions made along the co-operative action line mostly relate to: (a) voluntary agreements to share information and seek opinions of one another; (b) adjusting municipal and special district boundaries to make them much more logical; (c) strengthening planning at the county and intercounty levels; and (d) standardizing development regulations insofar as possible.

More extreme suggestions such as a major reordering of powers and responsibilities or abolition of many units of government probably are not necessary at this time insofar as economic development is concerned. However, should co-operative efforts prove ineffective over a period of a few years, then more extreme measures will be necessary to achieve the full development potential of the Study Area.

The last chapter of this report sets forth recommendations for consolidating and centralizing local government functions as viewed in a broader context than economic development.

III. ACCELERATOR CHARACTERISTICS RELATED TO DEVELOPMENT IMPACT^{1/}

Preliminary Report IV, Characteristics of Accelerator Related to Development Impact, identifies the various characteristics of the Accelerator's building program and its program of operation that are most relevant to development impact.

The impact created by the Accelerator had already begun prior to the Impact Study. Design work and land acquisition were underway. Construction personnel and Accelerator employees were working on or near the site; they were living in surrounding communities; and doing their shopping in local stores. Just what effect they would have, and what effect increased numbers of them would have on the economy of the area was the over-all subject of the entire Accelerator Impact Study. This preliminary study examined: (1) the characteristics of the Accelerator's construction and operating facilities; (2) the numbers, types, and characteristics of employees in both construction and operation phases of the program; and (3) the types of facilities needed in surrounding communities during construction and operation. The quantification of both direct and indirect impact of these characteristics was introduced in this report for further consideration later in the study.

The Accelerator characteristics most relevant to development impact are as follows:

A. Description of Accelerator and Site

The National Accelerator Laboratory is to be constructed on a site approximately 30 miles west of Chicago and approximately 30 miles southwest of Chicago's O'Hare International Airport, just east of the city of Batavia, Illinois. The site will occupy land in two counties. A total of 6,800 acres will be used for the Accelerator site --- 5,500 acres in Du Page County on its western edge, and 1,300 acres in Kane County.

The main feature of the Laboratory will be a proton synchrotron (Accelerator) of 200-BEV (billion electron volts) capacity. The most prominent part of the Accelerator will be a ring of magnets one and a quarter miles in diameter. From the air, this ring will appear like a large "doughnut shaped" mound of earth.

Another prominent feature of the Laboratory will be a large high-rise research and control center for the Accelerator. This building will be a visible symbol of the National Accelerator Laboratory. Consequently, much attention has been devoted to its design.

^{1/} All of the information included in this chapter was obtained in mid-1968.

A considerable portion of the site is not expected to be used immediately for the development of the Accelerator. Since most of it will remain open and unfenced, it is anticipated that the general public will have access to much of the area.

B. The Accelerator Program

The University Research Association (URA) is a nonprofit research corporation formed specifically for the purpose of constructing and operating the National Accelerator Laboratory through a contract with the Atomic Energy Commission (AEC). The URA had its beginning in 1965 when members of the National Academy of Sciences met to formulate a means by which a single, large-scale high energy accelerator could be utilized on a nationwide basis. At present, there are 47 member universities aggregated in 15 groups throughout the United States, including one university from Canada. Approximately one-fourth of this country's Federally sponsored research in the area of high energy physics will be carried on at the Accelerator. The National Accelerator Laboratory Users Organization was formed in order to co-ordinate the use of this facility on a nationwide basis.

Funds for the construction and operation of the Accelerator will be provided for by the Federal government. The total projected cost of the Accelerator is \$250 million. Construction is expected to take six years; however, the target date for the first proton beam to be projected is 1972. The bulk of construction activity will take place in 1971 and 1972.

C. Construction Responsibility

The primary responsibility for architectural and engineering work has been contracted to DUSAF --- a joint firm composed of the following companies:

1. Daniel Mann, Johnson, and Mendenhall;
2. The Office of Max O. Urbahn;
3. Seelye, Stevenson, Value, and Knecht, Inc.; and
4. The George A. Fuller Company.

In addition, the firm of William M. Brobeck and Associates has been retained to conduct portions of the engineering work and prepare cost estimates of the Accelerator's technical components.

At present, the University Research Association is engaged in a variety of technical activities, most of which deal with designing and conducting experimental tests on various component parts of the Accelerator. In addition, NAL staff members are being recruited and financial and administrative arrangements are being made.

D. Nature of Research to be Conducted

The field of high energy physics can be divided into three separate areas of research:

1. Electronic detection work,
2. Bubble chamber work, and
3. Theoretical physics.

These three areas of research will serve as basic divisions in the total research program to be carried out at the National Accelerator Laboratory.

The electronic detection area of research is expected to be the largest in terms of manpower. Physicists will work in research groups of ten persons and it is planned to have 20 such working groups throughout the year.

A bubble chamber is a device which allows the physicist to view the interaction of elementary particles. It is not contemplated that one will be built especially for the NAL. However, there are several large bubble chambers at other laboratories, one or more of which may be moved to the Accelerator site.

The theoretical aspects of the program will revolve around the experiments which are performed in the laboratory. Much of this work will be undertaken at home universities by the visiting physicists. However, theoretical work also will be carried on at the Accelerator by the permanent staff members as well as visiting scientists.

E. Visitors Program

Three-fourths of the total research effort is intended to be carried on by visiting scientists. Their visitations will vary from several weeks to several months. Visiting scientists are expected to come from all over the world.

Visitor users will be required to furnish whatever specialized equipment they will need for their own work. Aside from this, basic equipment will be provided for by the Accelerator Laboratory.

The question of whether or not to provide on-site housing for visiting scientists has not yet been decided. The housing demand on the part of visitors who will make use of the Accelerator presents some unusual problems in that: (1) the total demand is uncertain and, in any event, short term in nature; and (2) the demand may exhibit widely fluctuating seasonal characteristics.

F. Employment During Design and Construction Phase

The estimated total number of construction workers to be employed over the full length of the construction period is 4,729. The peak construction year will be 1970 when approximately 1,500 construction personnel will be employed.

It is expected that 75 percent of all construction employees will come from the Chicago area. The remaining 25 percent will come from other parts of the country. The incomes for construction workers will range from approximately \$8,700 per year to \$12,600 per year, depending on skill or trade. An estimated \$54,868,000 will be expended on labor during construction of the Accelerator. A large portion of this amount, almost \$18 million, will be spent on wages in 1970 alone.

The added demand for housing by construction workers will be limited basically to the 25 percent of the work force expected to come from out of the area. The duration of their employment will depend on their trade or the aspect of the Accelerator they work on. Nearly all of the construction workers now living in the Chicago area are expected to commute to the Accelerator site from their present residences.

A significant number of DUSAF workers are expected to come from outside the state of Illinois. Their numbers, though not as large as the construction work force, will increase and decrease in roughly the same proportions as the number of construction workers, depending upon periods of peak construction. Because individual DUSAF personnel are expected to be in the area only a few years at most, they are not expected to have a significant impact with respect to their demand for housing. However, they will create a demand for rental housing and some transient accommodations.

Both the AEC and URA are vigorously promoting active equal opportunity employment programs. The goal of administrators at DUSAF is to have an integrated work force with approximately the same proportion of Negroes as there is in the total metropolitan area --- roughly 14 percent. An important feature of this program is active recruiting of Negroes for placement in various types of construction jobs.

G. Employment During the Operating Phase

Over the past year or so relatively large numbers of physicists, engineers, and technicians have been engaged in design and experimental work. Table 3 indicates the expected 1975 concentration of scientific personnel within each of the three main areas of the high energy physics research to be carried out at the Accelerator. The size of the total NAL staff is expected to increase at a rather steady rate, from 200 in June 1968 to 2,000 in 1975.

The Accelerator has been designed to facilitate future increases in its capabilities by adding a bypass ring and possibly even a third ring which would serve the function of colliding beam interaction experiments. Additional target stations may also be added in the future, which could then significantly effect an increase in employment and experimental activities.

Table 3. ESTIMATED PERSONNEL AT ACCELERATOR IN 1975

	Ph. D. Physicists	Professional ^{1/}	Technical ^{2/}	Other ^{3/}	Total
<u>Directorate</u>					
Director's Office	5	8	-	12	25
Planning Group	1	5	3	2	11
Safety	2	6	10	1	19
					<u>55</u>
<u>Operations and Development</u>					
Technical Operations	10	30	100	25	165
Experimental Support	5	20	80	30	135
Accelerator Development	20	30	25	10	85
Research Equipment	45	65	80	20	210
					<u>595</u>
<u>Resident Research Groups^{4/}</u>					
Electronic Detection	25	40	60	14	139
Bubble Chamber	20	35	30	8	93
Theoretical Physics	15	5	-	3	23
					<u>255</u>
<u>Technical Support</u>					
Engineering	-	60	45	9	114
Machine Shops	-	1	-	110	111
Materials Laboratory	-	1	-	20	21
Craft Shops	-	1	-	35	36
Electronics	-	2	-	40	42
Computer Center	-	30	20	10	60
Film Processing Center	-	-	10	1	11
Library	-	6	-	4	10
					<u>405</u>
<u>Other Support</u>	-	63	39	243	345
<u>Visiting Research Staff^{5/}</u>					
Experimental Physics	150	50	10	-	210
Theoretical Physics	15	-	-	2	17
<u>Visitor Support^{6/}</u>	-	60	40	18	118
					<u>345</u>
Total	313	518	552	617	2,000

Source: National Accelerator Laboratory Design Report; January 1968.

1/ Includes engineers, B.S. physicists, graduate students, and programmers.

2/ Includes Accelerator, electronic, and mechanical technicians, operators and scanners.

3/ Includes machinists, building trades and crafts, clerical, custodial, and administrative personnel.

4/ Approximately half the resident research physicists are also listed under "research equipment development."

5/ Includes visiting graduate students.

6/ NAL personnel who provide assistance to visiting users.

H. Demand for Housing by NAL Staff

The most immediate economic impact the Accelerator will have on its surrounding communities is to create a demand for housing. Present NAL employees are very widely dispersed in their places of residence. No one single community has, as yet, more than ten percent of total NAL personnel as residents. Chicago, Aurora, Downers Grove, Naperville, and Wheaton have relatively high concentrations of NAL personnel as residents in their areas.

The total number of personnel coming from out-of-state thus far is 28, which represents 16 percent of the NAL's total labor force in June 1968. A majority of these people are physicists.

The present observed trends of dispersion among communities around the Accelerator site are expected to continue. However, higher concentrations of NAL personnel are expected to develop within a ten-mile radius of the Accelerator site in future years. Relatively, then, there will be fewer NAL employees living in the western suburbs of Cook County and eastern suburbs of Du Page County than there are now.

Based on the data made available by the Personnel Department of NAL, the net housing impact is estimated to be roughly 1,400 units. Of this amount, an estimated 950 will be required in the form of single-family residential units, and the balance of 450 will be rental units. A total housing impact of 1,800 units is expected due to the fact that 1,800 new full-time positions will be created by the Accelerator. However, it is estimated that approximately 400 Accelerator personnel will retain their existing housing upon joining the Accelerator staff.

The present housing distribution pattern is somewhat distorted due to the fact that the offices of NAL and DUSAF are presently located in Oak Brook and Hinsdale, respectively. In the future, it is expected that greater concentrations of NAL personnel relocating in the Study Area will locate closer to the Accelerator site rather than in the eastern portion of the Study Area.

I. Service Employment Impact

The amount of "non-basic" employment which will be generated due to Accelerator employment is estimated to be on a 1 to 1.5 ratio --- that is, approximately 1.5 jobs will be created for each "basic" Accelerator employee. These jobs will be in such diverse areas as government, insurance, retail stores, medicine, automobile service stations, etc. These employees will also have their service needs.

J. Accelerator Off-Site Facilities and Services

Off-site facilities and services are divided into two groups: public and private.

1. Public Off-Site Facilities and Services

The major highway consideration is the possible closing of roads going through the site --- especially Batavia Road. If it is decided to keep this road open, the question of local or Federal responsibility for its upkeep must be settled. The additional roads on the site that will remain open will be used primarily as service roads for the Accelerator and will be maintained by the NAL either under contract to a private firm or a local community.

A high-voltage power line will be moved to the edge of the site as will two natural gas pipelines. The electric power will be provided by Commonwealth Edison Company and gas will be provided by Northern Illinois Gas Company.

The National Accelerator Laboratory will provide for its own water supply and treatment facilities. Their sewage will be treated by the City of Batavia's treatment plant on a contractual basis.

Chicago's O'Hare International Airport is the prime airport facility serving the National Accelerator Laboratory. However, the Du Page County Airport may be used for smaller planes either flying direct from other cities or as part of a shuttle service to and from O'Hare Field.

The following school districts have been affected by a temporary reduction in tax base due to the Accelerator's location within their school district boundaries.

<u>Name</u>	<u>District Number</u>
McAuley School District	27
Warrenville School District	31
West Chicago School District	33
Batavia School District	101
Indian Plains School District	182
West Chicago High School District	94
Naperville High School District	107

2. Private Sector - Related Services and Facilities

Services and facilities from the private sector of the economy are not as well defined as are those from the public sector. Private services to the Accelerator itself will possibly take the form of road maintenance, protective services, grounds maintenance, or snow removal. In any event, the need for such services will definitely center around "housekeeping" type activities.

Services and facilities needed by the various employees working on the Accelerator project will center primarily around their housing needs. Even though their demand for housing may seem rather small compared to the general over-all economic development of the area, it should be pointed out that the employees of NAL, DUSAF, and the various construction companies will be spending a good portion of their earned monthly paychecks in the same areas in which they reside.

Table 4 presents aggregated estimates of gross income for all employees who are and will be associated with the Accelerator project until 1975. The estimated yearly income totals range from a low of \$4 million to a high of \$26 million over an eight-year period. A large portion of this gross income will eventually be spent on goods, services, and housing by these people. Beyond 1975, it is anticipated that total gross income will be even greater than the 1975 level. With these figures in mind, the impact of the Accelerator program becomes more meaningful.

Table 4. ESTIMATED TOTAL GROSS INCOME FOR ALL ACCELERATOR PERSONNEL BY YEAR (in thousands of dollars)

Year	NAL Employees	DUSAF Employees	Construction Workers	Visitor Users ^{1/}	Total Income
1968	\$ 1,864	\$ 1,829	\$ 331	-	\$ 4,024
1969	3,262	2,903	9,382	-	15,547
1970	6,058	1,971	17,970	-	25,999
1971	8,388	1,652	14,779	-	24,819
1972	10,997	1,133	9,739	\$ 186	22,055
1973	11,184	566	3,000	932	15,682
1974	13,980	-	-	1,864	15,844
1975	<u>15,425</u>	<u>-</u>	<u>-</u>	<u>3,215</u>	<u>18,640</u>
Total Income, 1968- 1975	\$71,158	\$10,054	\$55,201	\$6,197	\$142,610

Sources: This information is derived from the 1968 data on number of personnel by income range provided by the National Accelerator Laboratory Personnel Department and the Personnel Department of DUSAF.

^{1/} Visitor users working at the Accelerator will continue to be paid by their home universities. Only a small portion of their gross income is expected to be spent in the area while they are at the Accelerator. These judgments are due to the fact that most of these visitor users will be family men with homes near their regular place of employment.

K. Land-Use, Transportation, Utility, and Public Service Requirements

The 1,800 resident personnel and 200 average visiting scientists would require approximately 3,000 service workers to provide for their various needs (including the needs of their families).

The Accelerator personnel, related service workers, and their families would constitute a community with approximately 14,000 population if they were all located together.

For illustrative purposes, it is interesting to note that Naperville, in 1962, when it had 14,000 residents, had the following major development characteristics:

1. A developed area of four square miles.
2. Five elementary and one junior high school buildings with a total enrollment of 2,750.
3. One high school building with an enrollment of 1,129.
4. A complement of other facilities and services to provide for the needs and desires of a community of this size.

The Accelerator personnel are not expected to band together in one community nor, if they were to, would this community be expected to be identical to Naperville in 1962. Nevertheless, this comparison presents at least a rough approximation of the aggregate impact of Accelerator personnel on urban development. However, this is by one means a full description of the development impact of the Accelerator. Subsequent sections of this report are devoted to describing the over-all impact of the Accelerator as well as related growth catalysts.

IV. POPULATION AND ECONOMIC TRENDS

The first Preliminary Report in the Accelerator Development Impact Study series covers past trends and current estimates of population, housing, labor force characteristics, industrial employment, nonindustrial employment, commuting labor force, and income in the Accelerator Study Area. Sources of information for this report include census information, building permit data, and extensive interviewing and surveying in the Study Area. The findings of that study are summarized as follows:

A. Population Trends

1. Study Area population increased by 131 percent between 1950 and 1968.^{1/}

Between 1950 and 1968 the population in the Accelerator Study Area increased from 305,000 to 704,100, or 131 percent. The most rapid growth occurred between 1950 and 1960 when the population rose from 305,000 to 521,700, or 71 percent. Between 1960 and 1968 the population grew to 704,100 --- a 35 percent increase.

All parts of the Study Area did not share equally in this growth. Du Page County's population increased 103 percent between 1950 and 1960 and by 44 percent between 1960 and 1968. Du Page County's population in 1968 was estimated to be 452,200. Kane County's population, on the other hand, increased about 38 percent from 1950-1960 and 21 percent from 1960-1968. Kane County's population was estimated to be 251,900 in 1968.

While the rates of growth have slowed in the Study Area since 1960, the absolute increase from 1960-1968 was greater than in the 1950-1960 period. In the 1950-1960 period, the Study Area grew at an annual average of 21,700 persons. Between 1960 and 1968 the average growth of the Study Area was 22,800 persons per year.

2. Migration of young families with children has been largely responsible for the rapid growth of the Study Area's population.

Migration accounted for 70 percent of the growth of Chicago suburban areas between 1950 and 1960. In Du Page County, 68 percent of the growth between 1950 and 1960 was due to migration. In Kane County, 56 percent of the total growth during the same period resulted from migration.

^{1/} See Table 5 as well as charts A, B, and C for an indication of the 1968 estimates of population and the economy.

Since 1960, migration has played a smaller role in the total growth of the Study Area. Migration accounted for only 59 percent of Du Page County's growth between 1960 and 1964. In Kane County, migration declined to 46 percent of total population growth between 1960 and 1964. (More current migration data are not available.) The over-all decline in the relative importance of migration as a growth factor has occurred as the Study Area's population base has expanded. The larger number of families living in the area has made natural increase a relatively more important component of population growth.

Migration into the Study Area parallels a nationwide trend which has taken place since World War II. This migration is "selective" in that proportionately larger numbers of young families with children are moving to the suburbs. The decline of migration in recent years is partly related to the fact that the age group 24-45 now comprises the smallest segment of the nation's population.

3. Average family size has remained constant since 1960.

Between 1946 and 1957 birth rates rose throughout the United States. These high birth rates coupled with "selective" outward migration of young families with children caused large percentage increases in the number of children under 15 years of age within suburban areas of the United States. This change in the composition of the population caused increases in average family size in suburban areas.

Suburban areas within the Chicago SMSA were no exception. They experienced a 100 percent increase in the number of children under 15 years of age between 1950 and 1960. At the same time, average family size also increased in these areas. In Du Page County, for example, average family size rose from 3.50 in 1950 to 3.66 in 1960.

Between 1960 and 1965 family sizes in the suburban Chicago SMSA remained roughly the same as in 1960. Most of the children who migrated or were born in suburban areas prior to 1960 had not left home by 1965. Further, migration since 1960 has continued to be selective for young families with children. Coupled together, these factors have acted to maintain relatively constant average family sizes in the Study Area between 1960 and 1968.

4. Population growth has not been distributed evenly throughout the Study Area.

Population change between 1950 and 1968 has had varied impacts among townships in the Accelerator Study Area. In Du Page County, Addison, Bloomingdale, York, Milton, Winfield, Downers Grove, Lisle, and Naperville townships experienced over 100 percent growth in population between 1950

and 1968. In general, outlying townships in Du Page and Kane counties were not greatly affected by in-migration before 1960. As the section on employment indicates, the demand for industrial employment in the Study Area between 1950 and 1960 caused in-migration into Fox River Valley townships. There was a 38 percent growth in those townships between 1950 and 1960.

5. The number of school children in the Study Area increased by 45 percent between 1960 and 1968.

In 1968 there were 194,200 school-age children in the Study Area. This represents a 45 percent increase over 1960. In Du Page County, there were approximately 85,700 school-age children in 1960 and about 132,000 in 1968, a 54 percent increase. In Kane County had 48,600 school-age children and an estimated 62,200 in 1968, or roughly a 25 percent increase.

The large increase in school-age children which has occurred in the Study Area is related not only to total population growth but also the factor of "selective migration," i.e., migration primarily of young families with children.

6. Median age of Study Area residents has declined steadily since 1950.

One of the most significant changes in the age-sex composition within the Study Area has been the decline in median ages. In 1960 the median age for males in Du Page County was 27.3 compared with 28.6 for females. The median age declined to 23.7 for males and 26.4 for females between 1960 and 1968. In Kane County, the median age for males was 29.1 in 1960 compared to 26.7 in 1968. For females, the median age declined from 30.5 to 28.7 between 1960 and 1968. As noted earlier, the composition of migrants to the Study Area has had proportionately higher numbers of families with children. The area has experienced a large percentage increase in the 18-24 age group. The combined impact of these changes has tended to create a younger age structure within the Study Area. It is also a younger age structure than the Chicago SMSA as a whole.

B. Housing Trends

1. The housing supply in the Study Area has increased by 35 percent since 1960.

The housing supply for the Chicago SMSA between 1950 and 1960 increased 25 percent, from 1.5 million occupied dwelling units to 1.9 million units. The increase in the city of Chicago was only six percent. The increase in

Du Page County was 96 percent, from about 42,900 units to about 84,100 units. In Kane County, the number of occupied dwelling units increased 39 percent, from about 42,400 to about 59,000.

In 1960 the Study Area as a whole had 143,100 occupied dwelling units. In 1968 there were 193,600 units, a 35 percent increase over 1960, or an average annual increase of roughly 6,300 units.

2. Apartments have played an increasingly larger role in the growth of the Study Area housing supply since 1960.

Only 20 percent of the Study Area's dwelling units were renter-occupied in 1960. Between 1960 and 1968 almost 31 percent of all dwelling units constructed in the Study Area were in multi-family structures.

In 1967 building permit data indicate that of the total number of 9,139 dwelling units authorized in the Study Area that year, 4,521 (50 percent) were multi-family units. In 1968 the proportion of multi-family units was 23 percent of all units compared to 20 percent in 1960. This marks a reversal of the trend of single-family home construction between 1950 and 1960.

3. There is a trend toward a more widespread pattern of renter occupancy throughout the Study Area.

Most of the growth of renter-occupied housing units has been concentrated in Addison, Downers Grove, Milton, and York townships in Du Page County. In Kane County, apartment development has been concentrated in Elgin and Aurora townships. While this pattern does not particularly vary from the distribution of rental units in 1960, there has been an increased number of rental units constructed in other townships such as Lisle, Dundee, Geneva, and St. Charles. This indicates a trend toward a more widespread pattern of renter occupancy throughout the Study Area.

Part of the reason for this change is the number of 18-24 year olds in the Study Area, which increased from seven to ten percent of the total population between 1960 and 1968. Since this age group frequently cannot afford single-family sale homes, they often turn to rental units.

C. Labor Force and Employment Trends

1. The composition of the Study Area's labor force differs from that of the Chicago Metropolitan Area.

Within the Chicago Standard Consolidated Area (six counties in Illinois and two in Indiana), the composition of the labor force differs widely. In the Chicago SCA, professional workers and managers made up 20 percent of the labor force in 1960. In Du Page County, almost 32 percent of the labor force was classified as professional and managerial in 1960. Also in contrast to the SCA, Du Page County had lower percentages of clerical workers, operatives, service workers, and laborers (40 percent in 1960) than the SCA (55 percent in 1960). Kane County, on the other hand, has fewer clerical workers than the SCA (16 percent versus 20 percent in 1960); more operatives (24 percent versus 20 percent in 1960); and more farmers.

2. The Study Area's labor force, mostly concentrated in six townships, has increased by 41 percent between 1960 and 1968.

Between 1960 and 1968 the size of the labor force in the Study Area increased from 200,100 to 282,000 employees, a 41 percent increase. The largest growth occurred in Du Page County where the number of employees increased from about 116,400 to 178,300, or 53 percent. In Kane County, the labor force increased from 83,700 in 1960 to 103,700 in 1968, or about 24 percent.

York, Aurora, Downers Grove, Milton, Addison, and Elgin townships, each with over 25,000 in the labor force in 1968, accounted for 73 percent of the Study Area's total labor force in 1968. These same townships accounted for about 76 percent of the Study Area's professional workers in 1968, 72 percent of the managers, 75 percent of the clerical workers, 74 percent of the sales group, 72 percent of the craftsmen, 70 percent of the operative group, 73 percent of those in the service category, and 65 percent of the labor group.

These patterns have not changed greatly since 1960. There has been some spreading out of the labor force throughout the Study Area, however. About 78 percent of the sales people were concentrated in the six townships in 1960 (in 1968 it was 74 percent). There has also been a decrease in the percentage of craftsmen, from 73 percent to 72 percent, living in these six townships. On the other hand, these townships now account for a somewhat larger share of the Study Area's service and labor employees than they did in 1960.

3. Since 1961, Du Page County has begun to replace Kane County as the center of industrial activity in the western part of the Chicago SMSA.

In 1961 Kane County accounted for more than 70 percent of the Study Area's industrial employment. By 1965 eastern Du Page County, particularly Addison Township, had emerged as a major industrial growth area. Between 1961 and 1965 Du Page County accounted for the largest portion of the Study Area's industrial employment increase.

Capital expenditure levels for industrial development since 1964 were substantially above the levels that had previously existed both in the entire Chicago Metropolitan Area and the Study Area. Du Page County experienced a more rapid increase in these levels than did Kane County.

The amount of industrial land in use in the Study Area tripled between 1960 and 1967. The majority of growth was in subdivision or industrial park properties, particularly in Du Page County. Separate large-tract property was particularly significant in the industrial growth pattern of southern Du Page County.

4. There have been significant increases in nonindustrial employment in the Study Area since 1961.

Within the Study Area, the high growth townships in terms of nonindustrial employment were St. Charles, Bloomingdale, Addison, York, and Lisle/Naperville. Although St. Charles and Bloomingdale townships showed high nonindustrial employment growth rates, they did not show large absolute employment increases.

5. Du Page and Kane counties are net exporters of labor.

It is estimated that 201,000 persons who live in Du Page and Kane counties commute by car or train to work outside these counties. This figure reflects two facts. First, there is an excess of 121,000 participating members of the labor force over available employment opportunities in Du Page and Kane counties. Second, of the employment opportunities in these counties, a study of three major employers has indicated that approximately 50 percent (80,000) of available jobs are filled by persons who commute into Du Page and Kane counties. Thus, in addition to the 121,000 excess members of the participating labor force, approximately 80,000 more persons must commute to work outside these counties.

6. Incomes in the Study Area have risen faster than those for the SMSA between 1959 and 1968. At the same time, incomes have become more evenly distributed among the Study Area's residents.

Family income in the Chicago SMSA has not grown as rapidly as income for the United States as a whole. This is related to a national trend toward equalization of incomes between the several broad regions of the United States.

Family income in the Study Area has grown faster than income for the Chicago SMSA and the nation as a whole. Median family income in Du Page County increased by 25 percent --- from \$8,570 to \$10,712 (in current dollars) between 1959 and 1965. In Kane County, median family income rose from \$7,152 in 1959 to \$8,868 in 1965 --- a 24 percent increase. During the same period, median family income for the United States rose 22 percent --- from \$5,657 to \$6,882.

While median family income has risen generally, there has been a trend toward a more even distribution of income among all income groups in the Study Area.

Per capita income in current dollars (total personal income divided by total population) in the Study Area has increased by \$947 --- from \$2,966 in 1959 to \$3,913 in 1968. In current dollars, the 1968 figure is 132 percent of the 1959 level.

Total personal income (summation of all individual incomes) rose by 78 percent between 1959 and 1968 in the Study Area. In absolute terms, personal incomes (again, in current dollars) increased from about \$1.5 billion in 1959 to \$2.8 billion in 1968. This growth in total personal income within the Study Area is related to the rise in total population as well as increases in the levels of individual incomes.

V. PROJECTIONS OF POPULATION AND ECONOMY

A. Nature of Projections

Preliminary Report V, Projections of the Population and Economy with and without Accelerator, was designed to provide decision-makers and economic planners and developers in the Study Area with alternative projections of population, housing, labor force, employment, and income by county and subareas (townships). Alternative projections were made because the Study Area's future is multiple --- that is, there are alternative futures, not just one.

Therefore, alternative projections were made based on differing sets of assumptions regarding the awareness of public and private decision-makers to the needs and opportunities likely to be present and their capability of meeting the needs and of taking advantage of the opportunities.

Three sets of projections were made, employing the following basic assumptions:

- no Accelerator
- Accelerator, with maintenance of present developmental policies and practices
- Accelerator and vastly improved ways of doing things (both public and private)

The alternative sets of projections were based on different explicitly stated assumptions regarding catalysts for future growth in the Study Area. Each alternative projection identifies the over-all nature and quantities of expected change and the spatial distribution of the population and economy within the Study Area. Each of the three sets of projections was made by five-year intervals to the year 1985. The alternative projections are referred to as Set A, Set B, and Set C. All three projections and the sets of assumptions for each can be described as follows:

1. Assumptions for Set A Projection

The Set A projection for the Study Area was founded on more or less standard economic and demographic assumptions and techniques. Its primary purpose was to establish a base line from which the impact and magnitudes of the Accelerator's growth could be identified and quantified. The projection assumed continuation of present growth patterns without the Accelerator. Further, it assumed that existing public and private policies and practices regarding development would not change significantly during the projection period.

2. Assumptions for Set B Projection

In the Set B projection, it was assumed that the National Accelerator Laboratory would be constructed and become operational and that there would be a "normal" amount of ancillary development stemming from the Accelerator's growth. However, it did not assume any significant change in existing public and private policies and practices of development. Thus, the primary purpose of the Set B projection has been to identify the magnitude of the population and economic impact of the Accelerator over the base line projections established in Set A. Moreover, since the Accelerator is being established, the Set B projection probably represents the "most likely future of the Study Area. Also, the differences between the Set A and Set B projections represent what is believed to be the minimum impact that can be expected from the establishment of the Accelerator.

3. Assumptions for Set C Projection

The Set C projection assumed that the Study Area has a far greater potential for development than is reflected in the Set A and Set B projections. It is believed that with extensive planning and development efforts on the part of the State of Illinois, all local government jurisdictions, and the private sector, a more optimal use of human, natural, and economic resources can be realized.

In the Set C projection, a number of elements were identified which could serve as catalysts to bring about higher levels of growth (both qualitative and quantitative) in the Study Area. These elements include such measures as the provision of a major institution of higher learning; the development and promotion of additional research and development industries; improved public facilities planning; improvements in intergovernmental co-operation; and balanced housing opportunities. The suggestions that are designed to help achieve the Set C projection are described in Preliminary Report VIII and identified in Chapter X, below.

The Set C projection assumed that all of these elements would come about. The improbability of this was recognized. The intent of this projection was to identify and quantify the potential growth resulting from greatly improved policies and practices regarding these elements.

It is believed that the full attainment of the growth embodied in the Set C projection is unlikely. Nevertheless, it is possible. In other words, the Set C projection represents, more or less, what is believed to be the maximum development impact that can be realized from the establishment of the Accelerator.

The detailed projections are described in Preliminary Report V and presented in tabular form in Addendum II of that report. A summary of the projections follows.

Table 5 provides a summary and comparison of the sets A, B, and C projections of total population and various basic elements of the economy for the Study Area to 1985. In addition, charts are included which show the comparative changes in the age-sex distribution of the population that is foreseen for (a) the Study Area as a whole, (b) Du Page and Kane counties, and (c) for the various individual townships in both counties.

B. Projections without the Accelerator (Set A)

1. By 1985 normal population growth in the Study Area is expected to increase substantially over 1968.

In 1968 the total population of the Study Area was estimated to be 704,100. By 1985 the total normal population in the Study Area is projected to increase to 1,224,700, or 74 percent over 1968. Du Page County's total population is projected to increase by 86 percent --- to 841,200 from 452,200 in 1968. The Set A projection for Kane County in 1985 is 383,500, or 52 percent greater than the estimate of 251,900 in 1968.

2. The rate of growth in the Study Area will slow relative to the period 1950 to 1968.

The Study Area is projected to grow at a faster rate even without the Accelerator than the Chicago SMSA between 1968 and 1985. By 1985 the Study Area's share of total Chicago SMSA population will be 14 percent compared to ten percent in 1968.

While the Study Area's share of Chicago SMSA growth will increase, the rate of population growth in the Study Area will slow relative to the period 1950 to 1968. Between 1950 and 1968 the rate of growth was seven percent per year compared with a projected rate of four percent per year between 1968 and 1985.

3. Total employment in the Study Area will increase by 132,400, or 82 percent, between 1968 and 1985.

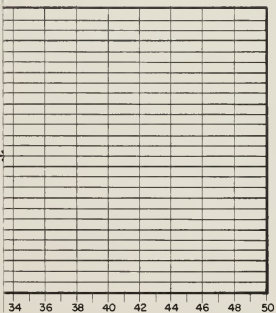
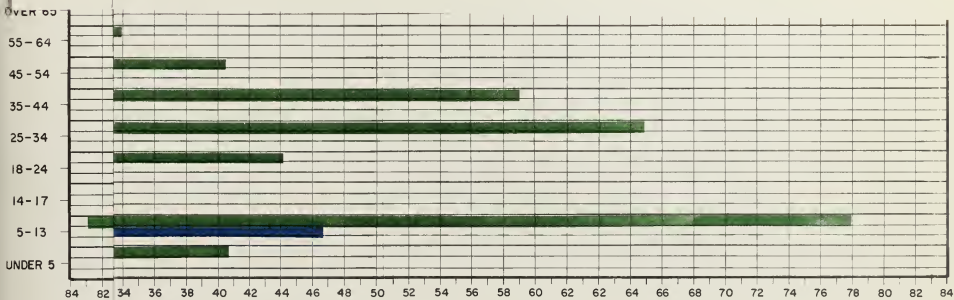
The growth of employment in the Study Area is projected to keep pace with the growth in total population. Between 1968 and 1985 total employment in the Study Area will increase by 82 percent, or 132,400 employees. In 1985 the total Study Area employment will be 293,800 (Set A projection).

Table 5.

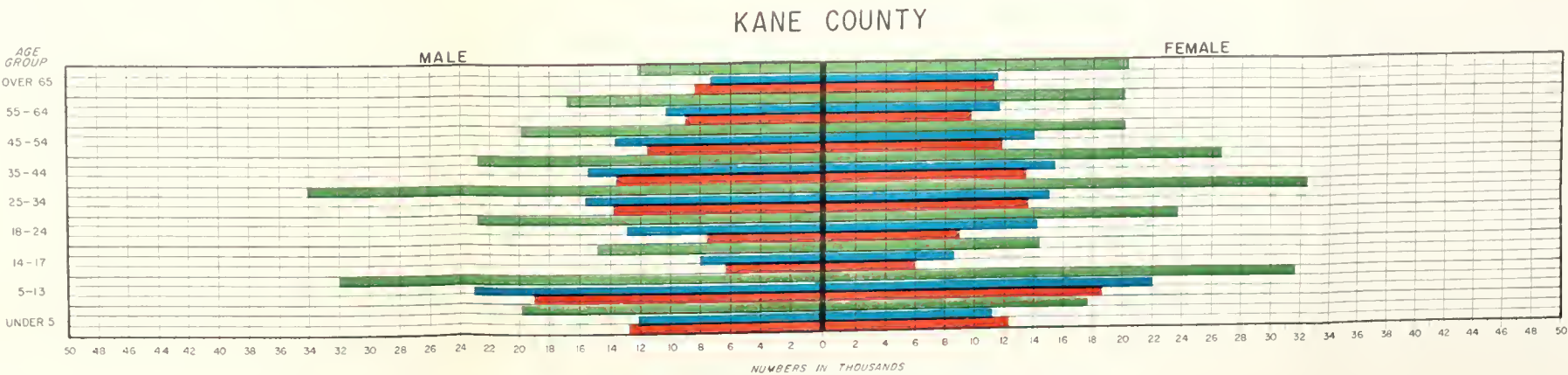
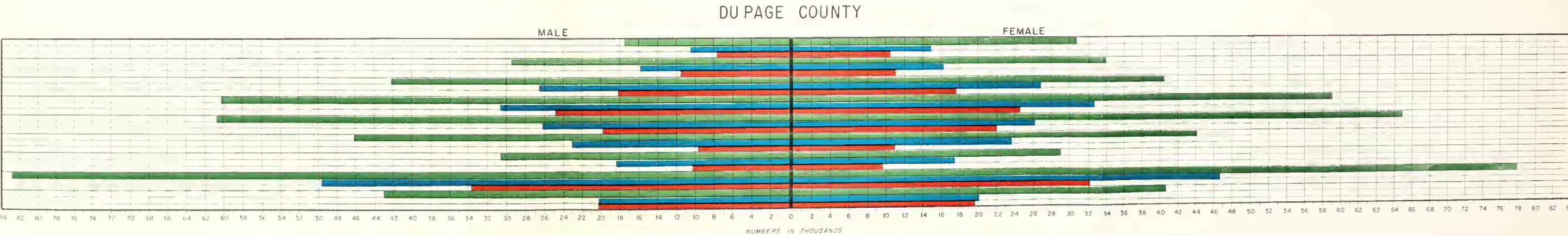
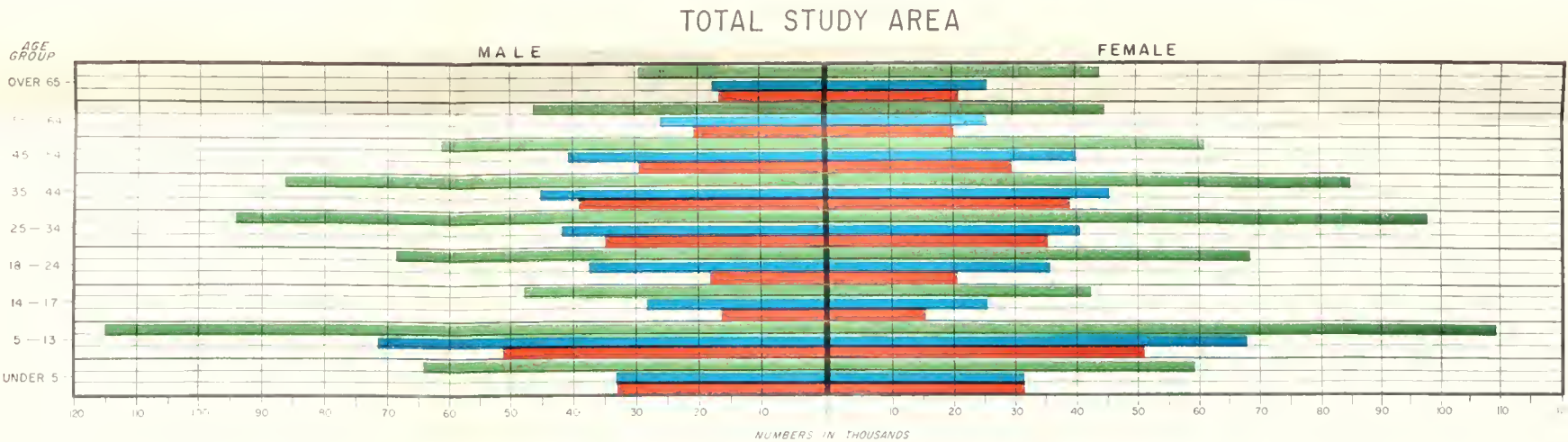
SUMMARY OF ALTERNATIVE FORECASTS OF TOTAL POPULATION
AND ECONOMY IN THE ACCELERATOR STUDY AREA, 1968-1985

	1985				Normal Growth Forecasts (Set A, 1985 Over 1968)	Impact of Accelerator Catalysts (Set B, 1985 Over Set A, 1985)	Impact of Accelerator Catalysts (Set C, 1985 Over Set A, 1985)
	With Accelerator and Other Growth Catalysts			C			
	Without Accelerator A	With Accelerator B					
Totals by Area							
Total Population							
Study Area	704, 134	1, 224, 700	1, 267, 200	1, 390, 500	520, 566	42, 500	165, 800
Du Page County	452, 231	841, 200	845, 900	899, 500	388, 969	4, 700	58, 300
Kane County	251, 903	383, 500	421, 300	491, 000	131, 597	37, 800	107, 500
Households							
Study Area	193, 555	372, 080	392, 215	435, 455	178, 525	20, 135	63, 375
Total households	159, 087	246, 002	257, 126	278, 791	86, 915	11, 124	32, 789
Single-family	34, 468	126, 078	135, 089	156, 664	91, 610	9, 011	30, 586
Du Page County	120, 812	254, 771	263, 071	278, 694	133, 959	8, 300	23, 923
Total households	104, 328	169, 191	174, 085	182, 254	64, 863	4, 894	13, 063
Single-family	16, 484	85, 580	88, 986	96, 440	69, 096	3, 406	10, 860
Kane County	72, 743	117, 309	129, 144	156, 761	44, 566	11, 835	39, 452
Total households	54, 759	76, 811	83, 041	96, 537	22, 052	6, 230	19, 726
Single-family	17, 984	40, 498	46, 103	60, 224	22, 514	5, 605	19, 726
Labor Force							
Study Area	282, 020	515, 284	534, 342	588, 324	233, 264	19, 058	73, 040
Du Page County	178, 310	350, 068	352, 103	374, 863	171, 758	2, 035	24, 795
Kane County	103, 710	165, 216	182, 239	213, 461	61, 506	17, 023	48, 245
Employment							
Study Area	161, 401	293, 770	313, 770	362, 770	132, 369	20, 000	69, 000
Du Page County	85, 589	181, 800	194, 780	223, 530	96, 211	12, 980	41, 730
Kane County	75, 812	111, 970	118, 990	139, 240	36, 158	7, 020	27, 270
Total Personal Income (millions of dollars)							
Study Area	\$2, 755. 4	\$7, 035. 5	\$7, 280. 9	\$8, 009. 9	\$4, 280. 1	\$245. 4	\$974. 4
Du Page County	\$1, 838. 3	\$4, 946. 9	\$4, 976. 5	\$5, 303. 9	\$3, 108. 6	\$ 29. 6	\$357. 0
Kane County	\$ 917. 1	\$2, 088. 6	\$2, 304. 4	\$2, 706. 0	\$1, 171. 5	\$215. 8	\$617. 4

Note: The numbers for absolute forecasts are only significant to thousands, but are not rounded for statistical convenience. These forecasts are, of course, subject to change as more information becomes available. The forecasts are based on the assumption that the economy will continue to grow at the rate indicated by the forecasts of the Bureau of Economic Analysis, but are not rounded for statistical convenience. These forecasts are, of course, subject to change as more information becomes available.



COMPARATIVE AGE-SEX DISTRIBUTION OF THE POPULATION,
ACCELERATOR STUDY AREA, 1960, 1968 AND 1985*



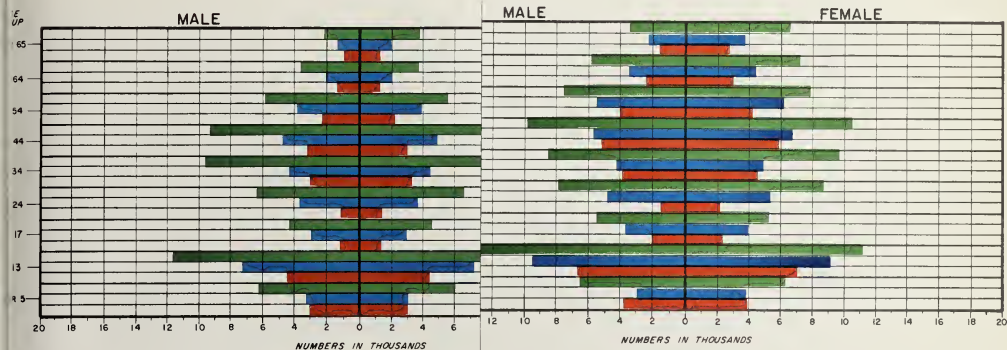
* THE 1985 TOTALS ARE DERIVED FROM THE SET
OF PROJECTIONS SHOWN IN ADDENDUM II, TABLE 3A

COMPARAT 1968 AND 1985*

KEY
 1985
 1968
 1960

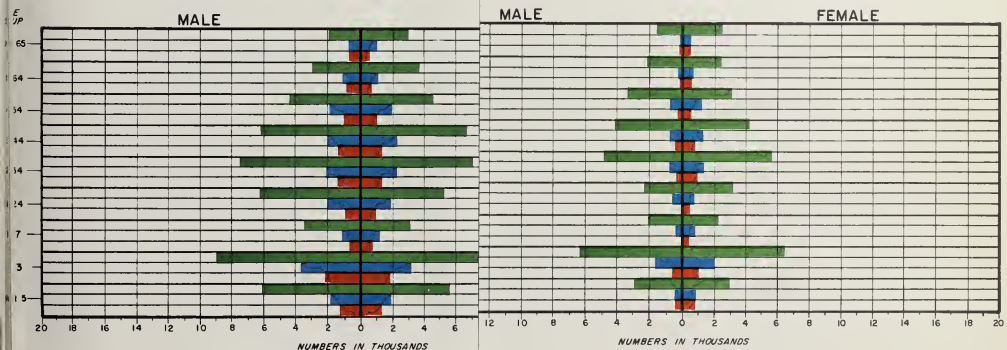
ADDISON

DOWNERS GROVE



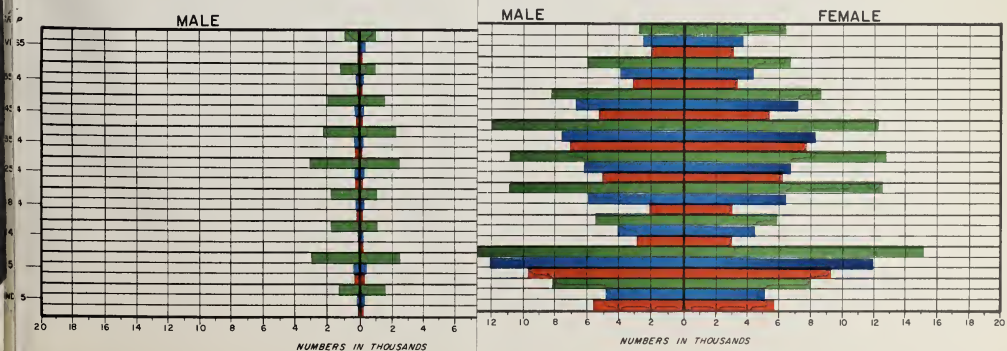
LISLE

NAPERVILLE



WAYNE

YORK



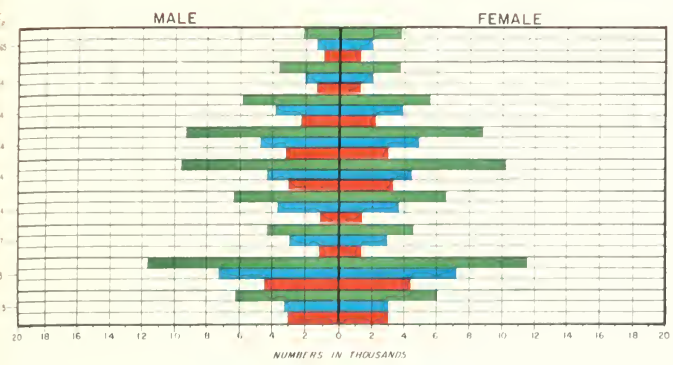
COMPARATIVE AGE-SEX DISTRIBUTION OF THE POPULATION, IN DU PAGE COUNTY, 1960, 1968 AND 1985*

(BY TOWNSHIPS)

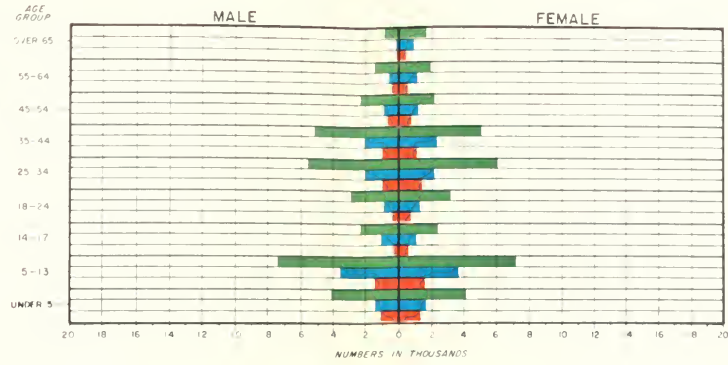
KEY
1985
1968
1960

*THE 1985 TOTALS ARE DERIVED FROM THE SET B PROJECTIONS SHOWN IN THE APPENDUM 2, TABLE 3A

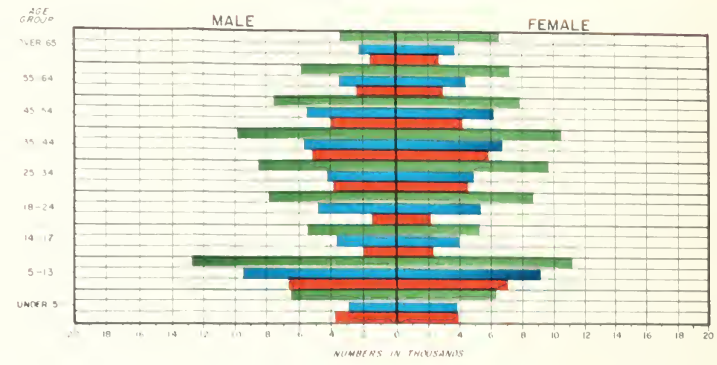
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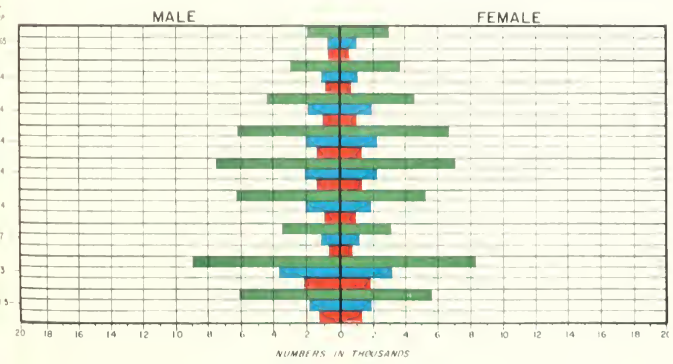
BLOOMINGDALE



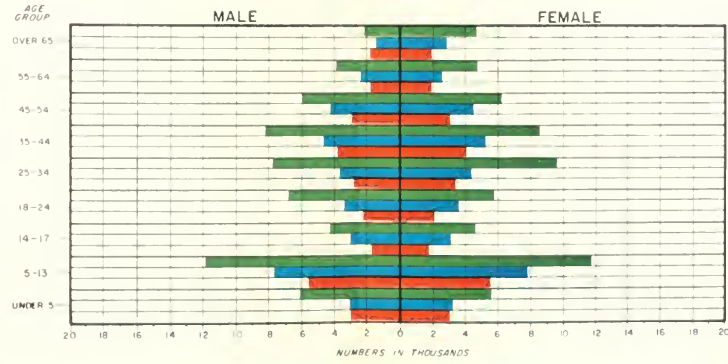
DOWNERS GROVE



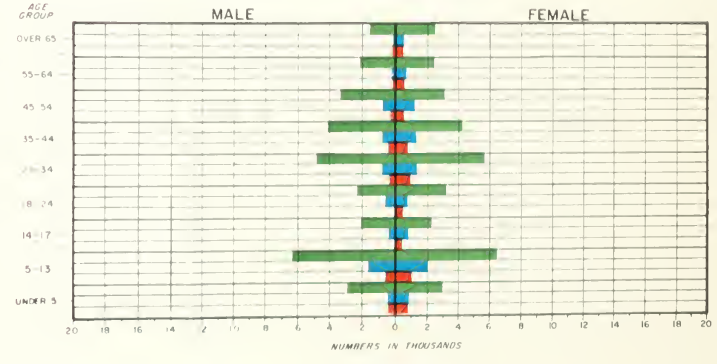
LISLE



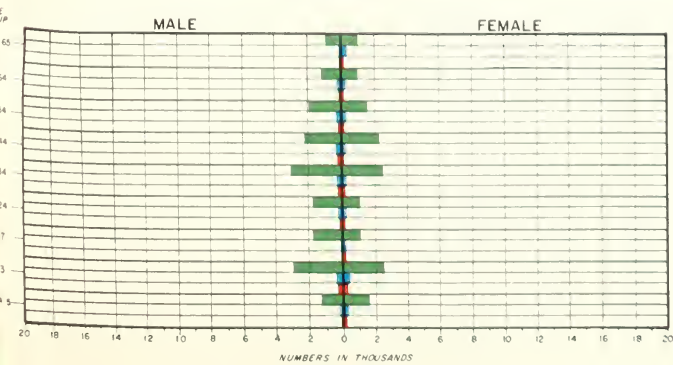
MILTON



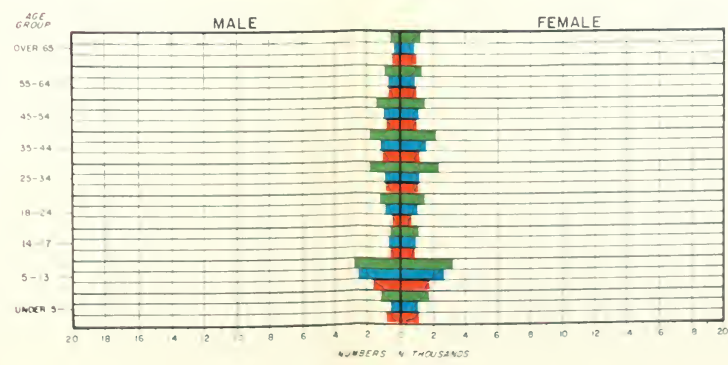
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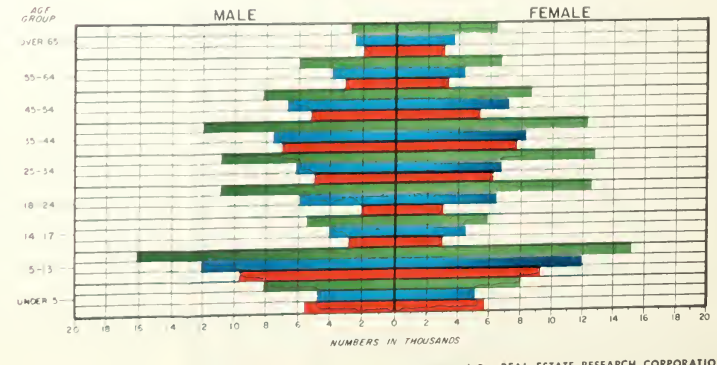
WAYNE



WINFIELD



YORK

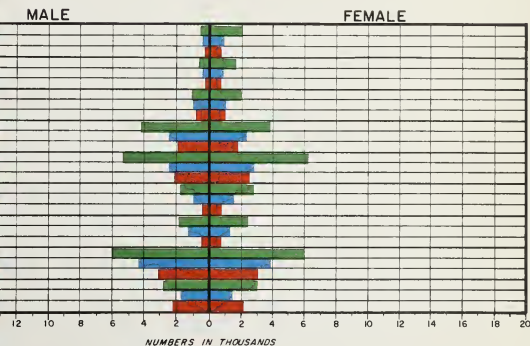
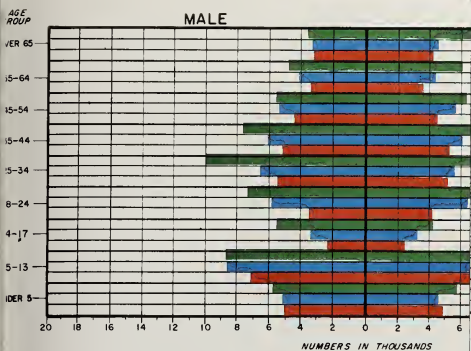


COMPARISON 1968 AND 1985*

CHART C

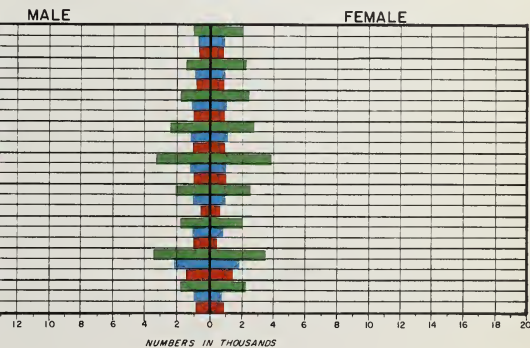
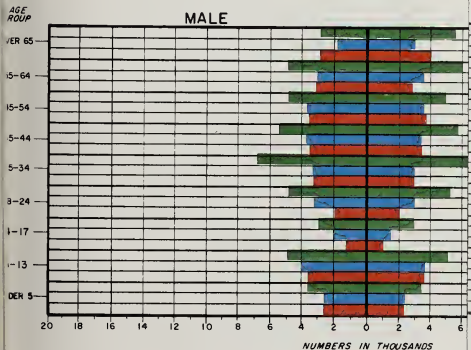
AURORA

DUNDEE



ELGIN

ST. CHARLES



KEY

1985

1968

1960

WESTERN KANE COUNTY INCLUDES: BIG ROCK, BLACKBERRY, BURLINGTON, CAMPTON, HAMPSHIRE, CANEVILLE, PLATO, RUTLAND, SUGAR GROVE, AND VIRGIL TOWNSHIPS

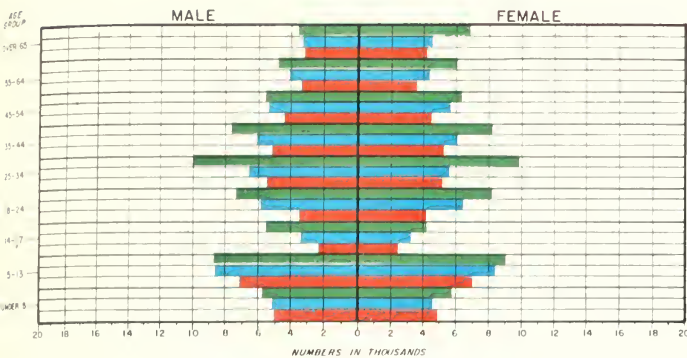
COMPARATIVE AGE-SEX DISTRIBUTION OF THE POPULATION, IN KANE COUNTY, 1960, 1968 AND 1985*

CHART C

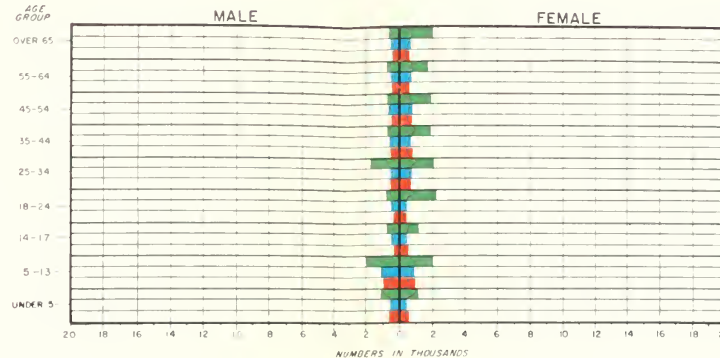
(BY TOWNSHIPS)

*THE 1985 TOTALS ARE DERIVED FROM THE SET B PROJECTIONS SHOWN IN THE APPENDUM 2, TABLE 3A

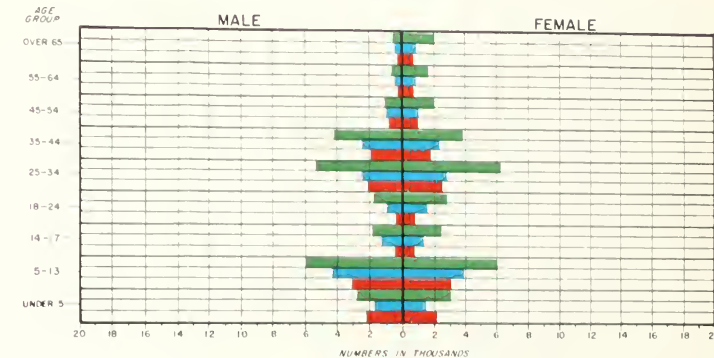
AURORA



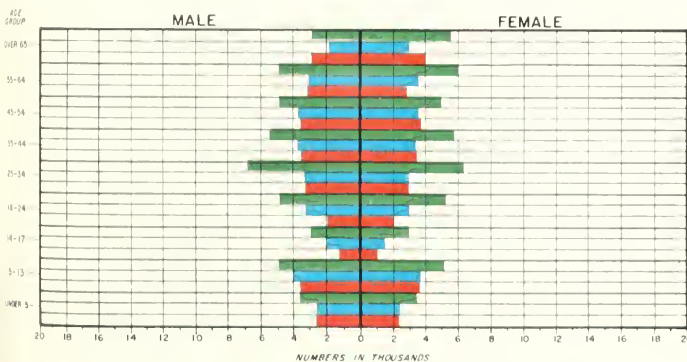
BATAVIA



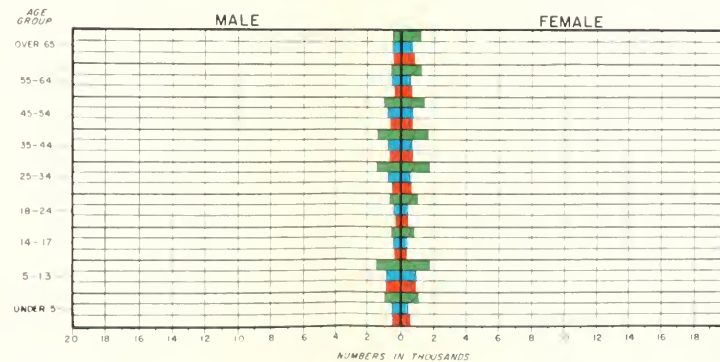
DUNDEE



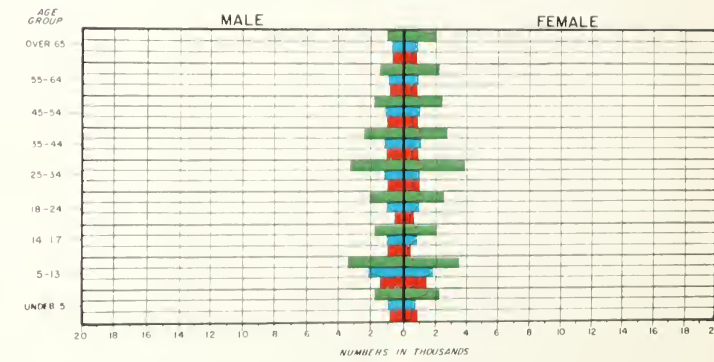
ELGIN



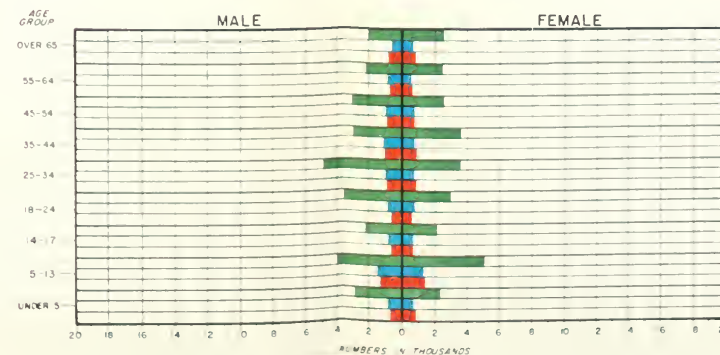
GENEVA



ST. CHARLES



WESTERN KANE COUNTY*



KEY
1985
1968
1960

*WESTERN KANE COUNTY INCLUDES: BIG ROCK, BLACKBERRY, BURLINGTON, CAMPTON, HAMPSHIRE, KANEVILLE, PLATO, RUTLAND, SUGAR GROVE, AND VIRGIL TOWNSHIPS

Growth in employment will be almost equally divided between industrial and nonindustrial employment. Industrial employment in the Study Area will increase by 67,600 to 136,800 employees by 1985. Nonindustrial employment will increase by 64,800 to about 157,000 during the same period.

Du Page County will account for the largest share of the projected employment increase. Industrial employment is projected to increase by 48,400, while nonindustrial employment is projected to increase by 47,800 between 1968 and 1985. Total employment in Du Page County will be 181,800 in 1985.

Kane County's industrial employment will increase by 19,200 between 1968 and 1985. Nonindustrial employment in Kane County will increase by about 17,000. Total employment in Kane County under the Set A projection is 112,000 in 1985.

4. The greatest change in the employment mix in the Study Area without the Accelerator is expected to occur in wholesale trade.

The employment mix in the Study Area is not expected to change greatly between 1968 and 1985. Wholesale trade is expected to experience the largest growth because of the accessibility of the Study Area to the Chicago SMSA and the rapid growth in population, business, and industry.

In general, the employment mix is expected to continue to follow changes in the Chicago SMSA. Between 1968 and 1985 the Chicago SMSA is expected to expand in nonelectrical machinery, instrument manufacture, and printing and publishing. It is expected that the Study Area will increase its share of employment in these sectors in about the same proportions as for the Chicago SMSA as a whole.

C. Projections with the Accelerator (Set B)

1. The establishment of the Accelerator will have a significant impact upon the Study Area.

Given the Accelerator and maintenance of present policies and practices, total Study Area population is projected to be 1,267,200 in 1985 compared to 704,100 in 1968. This represents an absolute increase of 563,100, or 80 percent. Du Page County will increase in total population to 845,900, an increase of 393,700, or 87 percent. Kane County's population is expected to increase by 169,400, or 67 percent, to 421,300 by 1985.

Stated another way, the Study Area will grow by an estimated 43,500 in total population which can be directly and indirectly attributed to the Accelerator. This represents a four percent increase over the Set A base line projection of 1,224,700 for 1985. Of the total increase, an estimated 21,700 persons will reside in Du Page County and 21,800 in Kane County.

2. Over-all changes in age structure are expected to be the same with or without Accelerator.

Charts A, B, and C indicate perceptions of the age-sex distribution of the population in the Study Area in 1985 compared to 1960 and 1968. The 1985 distribution is based upon the 1985 Set B population projections. Detailed discussions of the anticipated changes in age structure appear in Preliminary Report V, Projections of the Population and Economy with and without Accelerator. While the charts are based upon the Set B projection, the same relative age structure in the Study Area vis-a-vis each age group compared with every other age group would remain the same if similar charts were prepared for the Set A and/or the Set B projections.

3. Given the Accelerator, the total number of households in the Study Area will grow more rapidly than total population between 1968 and 1985.

Given the Accelerator, the total number of households in the Study Area will increase at a faster rate than total population between 1968 and 1985. This is related to the aging of the children born after World War II. The total size of this age group will create a large demand for households. However, the average family size of these households is projected to be smaller than in the period 1950-1968. For this reason, households are expected to grow at a faster rate than total population.

Between 1968 and 1985 the total number of Study Area households is projected to increase by 198,700, or 103 percent (Set B projection). In Du Page County, the total number of households is projected to increase by 142,300, or 118 percent. In Kane County, the total number of households will increase by 56,400, or 78 percent.

4. Multi-family households are expected to increase by 292 percent between 1968 and 1985.

The composition of housing demand is expected to change greatly between 1968 and 1985 with or without the Accelerator. The Accelerator will tend to augment this trend somewhat, i.e., as the number of young persons increases in the Study Area they will tend to prefer apartment living in their first years of marriage. In addition, the Study Area is expected to have increasing numbers

of older couples and single persons who will prefer apartment living. At the present time the supply of multi-family units is inadequate to meet this demand. Thus, much of the new construction during the projection period will concentrate upon increasing the supply of multi-family units.

For the Study Area as a whole, the number of multi-family households is projected to increase by 100,600, or 292 percent (Set B projection). Du Page County will experience the greatest increase. By 1985 the number of multi-family households is projected to increase by 72,500 units, or 440 percent. Kane County, unlike Du Page County, has a relatively large number of households residing in multi-family units in 1968. Total multi-family households in Kane County are projected to increase by 156 percent, or 28,100, between 1968 and 1985.

5. The total labor force in the Study Area is projected to increase by 90 percent between 1968 and 1985.

In recent years there has been a shortage of labor in some parts of the Study Area. This is related to (a) the relatively small proportion of the population in their prime working years, and (b) the high proportion of white-collar workers who commute outside the Study Area for employment. However, as the children born after World War II enter the labor force, the available labor supply will increase substantially (though there still may be a shortage of production workers).

Between 1968 and 1985 the total labor force, given the Accelerator, in the Study Area will increase by 90 percent to about 534,300 persons. The labor force in Du Page County will increase by 98 percent, or about 173,800 persons --- significantly greater than in Kane County. Kane County's labor force will increase by 76 percent, or about 78,500 persons.

6. Total employment, given the Accelerator, is projected to increase by 152,400 between 1968 and 1985.

Total Study Area employment is projected to increase by 152,400, or 94 percent, between 1968 and 1985. The greatest growth will occur in Du Page County, where total employment will increase by 109,200, or 128 percent. In Kane County, employment will increase by 43,200, or 57 percent.

Industrial employment will increase by 76,000 persons, of which 9,300 can be attributed to the Accelerator. Du Page County's industrial employment will increase by about 55,000, while Kane County's total industrial employment will increase by about 21,000.

Nonindustrial employment in the Study Area is expected to increase by approximately 75,000 persons between 1968 and 1985. Du Page County will increase by 54,000, while Kane County will experience an increase of about 21,000.

7. The ratio of study area jobs to participating labor force will remain relatively constant between 1968 and 1985.

The ratio of jobs located in the Study Area to participating labor force will remain relatively constant in 1985 compared to 1968. In 1985 approximately 377,500 persons will commute outside the Study Area for purposes of employment.

8. The composition of the labor force will tend to become concentrated in white-collar occupations between 1968 and 1985.

The projections of labor force composition assume that technological changes and the increase in the size of firms within the Study Area and the Chicago SMSA will tend to increase the percentage of white-collar workers. In addition, it is expected that larger numbers of females will participate in the labor force during the Set B projection period.

By 1985 about 56 percent of the Study Area labor force will be concentrated in white-collar occupation groups compared to 55 percent in 1968. In Du Page County, the proportion of white-collar workers will not change greatly because the area already has a high proportion of professionals --- 1985 white-collar workers will comprise 61 percent of the labor force compared to 60 percent in 1968. The greatest change will occur in Kane County, where the percentage of white-collar workers will increase to 49 percent from 45 percent in 1968.

9. Total employment in the Study Area will increase an additional 20,000 between 1968 and 1985 given the Accelerator versus not having the Accelerator.

Over and above the growth expected without the Accelerator, Du Page County's total employment will increase by 13,000, or seven percent, while Kane County's total employment will increase by an estimated 7,000 employees, or six percent.

The Accelerator will affect the employment mix in technologically oriented fields. In 1968 the proportion of industrial employment engaged in research and development activities in the Study Area was seven percent. The development of the Accelerator will attract other industries which are oriented

toward research and development. The proportion of employment in research and development is projected to increase to 14 percent of the Study Area's industrial employment by 1985.

A nominal amount of ancillary industry will locate in the Study Area as a result of the Accelerator's development there. In addition, for every one Accelerator or basic industry employee, there will be 1.6 new employees in service businesses to provide for the needs of the Accelerator, new industry, and new population in the Study Area.

10. Total personal income in the Study Area is projected to increase by \$4.5 billion, or 164 percent, between 1968 and 1985.

Total Study Area personal income is projected to be \$7.3 billion by 1985. Du Page County's total personal income will increase by 171 percent, or \$3.1 billion, while Kane County's total personal income will increase by 151 percent, or \$1.4 billion, between 1968 and 1985.

Per capita income for the Study Area will increase by \$1,848, or 45 percent, between 1968 and 1985 (in 1968 dollars). The growth of per capita income in Du Page County is expected to "level off" during the Set B projection period. This will occur as the occupational composition of the labor force becomes more evenly distributed among all occupational groups.

Kane County is expected to experience the greatest increase in per capita income. Per capita income is expected to increase by \$1,873, or 50 percent, during the projection period. This relatively higher rate of growth is expected to be primarily caused by changes in labor force composition. In addition, the "spill over" of suburban growth into Kane County after 1975 is expected to bring higher income groups into the area.

D. Comparison of the Sets B and C Projections

The Set B projection discussed above assumes the Accelerator becomes operational as planned but that other development policies and programs in the Study Area will remain substantially unchanged. The Set C projection assumes vastly improved policies and practices affecting development. The major differences in these two projections are summarized below.

1. Total employment in the Set C projection will be 16 percent greater than in the Set B projection for 1985.

Total employment in the Study Area is projected to be 49,000, or 16 percent, more by 1985 in the Set C projection than in Set B. In Du Page County,

total employment is projected to increase by 28,800, or 15 percent. Kane County employment in the Set C projection is estimated to be 20,300, or 17 percent more than the Set B projection for 1985.

2. The greatest change in employment mix in Set C will occur in research and development industries.

Maximum development efforts in the Study Area are projected to increase the proportion of research and development employment. In 1985 the proportion of persons in this field will increase to 16 percent of total industrial employment. This represents an increase of two percentage points over the Set B projection for 1985.

The greatest growth in nonindustrial employment in Set C is projected to occur in Federal and local government service. This is basically an extension of the trends projected in Set B. However, in Set C a major institution of higher learning is assumed. If this institution materializes, the character of the employment mix in this sector would change markedly.

3. With a maximum planning effort, total Study Area population will increase by an additional 123,300 persons by 1985.

By 1985 the planning and development measures assumed for purposes of the Set C projection will result in an increase in total population in the Study Area of ten percent, or 123,300 persons, over the Set B projection. Du Page County's total population is expected to increase by six percent, or 53,600 persons, while Kane County's population is projected to increase by 17 percent, or 69,700 persons.

4. Qualitative changes in the social and economic characteristics are expected to occur in Set C.

Planning and development efforts assumed in Set C are directed toward encouraging growth of R and D based firms and related industries. The development strategies also include the location of a major institution of higher learning in the Study Area. Less tangible strategies such as intergovernmental co-operation and more orderly land-use development are also provided for in Set C.

Because of these changes in the economic and living environment of the Study Area, it is expected that qualitative changes will take place in the composition of the Study Area's population and labor force. Similarly, it is

expected that residents attracted to the Study Area will have different characteristics than at present. However, the nature and direction of these qualitative changes are difficult to quantify. Thus, the characteristics were held the same in the sets B and C projections.

5. Total households in the Set C projection will increase by 11 percent by 1985 over Set B.

The total number of households in the Study Area will increase by about 43,200, or 11 percent, over Set B by 1985. The largest share of growth will occur in Kane County. Almost 64 percent of the total growth (27,600 households) are projected for Kane County in 1985. This occurs because there will be larger numbers of housing opportunities in Kane County than in western Du Page County by 1985. Under the Set C projection, the number of households in Du Page County will increase by about 15,600, or six percent.

6. The proportion of multi-family units is projected to increase in Set C over Set B for 1985.

Improved planning and land development practices are estimated to increase the housing opportunities and the variety of housing types in Set C. By 1985, 36 percent of the total households in the Study Area are expected to reside in multi-family units. This compares with 34 percent in the Set B projection for 1985.

The largest absolute and percentage increase in households is expected in Kane County in Set C, while in Set B the greatest increase in multi-family units is forecast in Du Page County. Kane County is projected to increase its total of multi-family households by about 14,100, or 31 percent, over the Set B projection. In 1985, 38 percent of all households in Kane County will be multi-family. This compares with 36 percent in Set B.

Multi-family households in Du Page County will increase by eight percent, or 7,500 units, over the Set B projection. By 1985, 35 percent of all households in Du Page County are projected to be multi-family compared to 34 percent in the Set B projection.

7. The distribution of population growth in Set C will cause an increased rate of urbanization in the Fox River Valley of Kane County and in western Du Page County.

The distribution of population in the Set B and Set C projections is estimated to have the greatest impact in western Du Page County and the Fox River

Valley in Kane County. However, the magnitude of the Set C projection and the expected concentration of growth around the Accelerator will cause more intense urban development of these areas than in Set B.

In the Set C projection, Wayne, Winfield, and Naperville townships are projected to increase by 33,200, or 27 percent, over the Set B projection by 1985. The greatest growth in total population is expected to occur in Winfield Township, which will increase from 29,700 in Set B to 40,900 in Set C by 1985. Growth in Kane County is forecast to be more evenly distributed in the row of townships along the Fox River Valley. Elgin Township is expected to experience the greatest growth. Elgin Township is projected to increase by 14,800, or 16 percent, in Set C over Set B by 1985. The greatest percentage increase in total population is forecast to occur in Geneva Township, where the 1985 Set C projection represents a 57 percent increase in total population over Set B (an addition of 11,600 persons).

VI. LOCAL GOVERNMENT RESPONSIBILITIES

Preliminary Report II, Analysis of Local Government Development Responsibilities in the Accelerator Study Area, provides a profile of local governmental activity within Du Page and Kane counties from the standpoint of the provision of facilities and services and the regulation of private development. The existing multiplicity of public jurisdictions include counties, townships, municipalities, school districts, park districts, and other special districts.

In order to provide a profile of government development responsibilities in the Study Area, it was desirable to quantify, to the greatest degree possible, the scope and magnitude of governmental activities by function, i.e., education, recreation, health services, and by type of local governmental jurisdiction responsible for these functions. An investigation of past trends and current patterns with respect to local governmental expenditures and sources of financing yielded much of the relevant information.

The Local Government Responsibilities report was divided into three major parts: (1) an inventory of governmental units in the Study Area; (2) a discussion of governmental functions by type of government; and (3) a discussion of each type of governmental unit and the functions it performs. In other words, parts two and three were two different ways of looking at government units in the Study Area and the services they perform.

The findings pertaining to local government development responsibilities are as follows:

A. Composition and Development Functions of Local Governments

1. The Study Area is characterized by a profusion of local government units, numbering 247 in 1967. ^{1/}

For the Chicago SMSA as a whole, with 1.7 units per 10,000 population in 1962, there are more units of government than any other SMSA in the United States. In the Study Area, with 4.7 units of government per 10,000 population, the proliferation of local government responsibilities is even more significant than for the SMSA as a whole.

2. Education accounts for nearly two-thirds of local public expenditures in the Study Area.

With respect to major functions of local government in the Study Area, education accounted for approximately 63 percent of total expenditures in 1962.

^{1/} This count of local governments is less than that reported in Chapter XI because districts lying mostly outside the Study Area are not counted here.

Other important functions assumed by local government (and the proportion of total expenditures observed) included: highways (nine percent); sanitation and sewerage (six percent); general government (five percent); health and hospitals (four percent); police protection (four percent); fire protection (two percent); parks and recreation (two percent); and public welfare (two percent).

3. Various types of local governmental units have similar functions.

A substantial degree of functional interrelatedness and co-operation was observed in the Study Area with respect to the provision of many facilities and services. These include highways, water supply, sewerage and sanitation, public safety, public welfare, and education. (See Table 6.) Relationships among municipalities and division of responsibilities between municipalities and special districts are especially important in this regard and were highlighted in Preliminary Report II.

4. State and Federal governments participate in urban development.

The State and Federal governments finance and exercise an important policy influence over many local government activities, including construction and maintenance of highways and streets, sewerage facilities, public welfare, health and hospitals, and schools. Total grants and aids from Federal and State governments accounted for approximately 18 percent of local government revenues in the Study Area in 1962. Although more recent comprehensive data are not available, indications are that these grants and aids have been accounting for an increasingly greater share of local government revenues.

B. County Governments

An emphasis in the report was upon various elements of urban development and the duties that each type of local government assumes in planning, acquiring land, financing, constructing, operating, or regulation of each of the various elements. Viewing the responsibilities of the various local governments from this standpoint, County governments play a much more significant role than expenditure comparisons would imply.

For example, counties have responsibilities for numerous development elements such as highways, utilities, and health facilities. They also have responsibilities for various planning and regulatory functions associated with development such as comprehensive planning, zoning, building regulation, etc. However, counties spend relatively little on these elements and functions (except highways).

Elements of Urban Development	Counties					Government				Federal Government		Remarks
	PLN	ACQ	FIN	CON	OPR	IN	CON	OPR	REG	FIN	REG	
<u>Transportation</u>												
Expressways and Freeways						X	X	X		X		
Tollways						X	X	X		X		
Major Highways												
Collector Highways	X	X	X	X	X							
Secondary Roads	X	X	X	X	X							
Bridges and Viaducts	X	X	X	X	X							
Urban Streets						X						
Airports			X							X	X	
Public Transportation (Bus and Rail Lines)												Public transportation is operated privately.
Parking Facilities												
Street Lighting												
<u>Utilities</u>												Privately owned utilities provide a large proportion of water supply, electricity, gas, telephone and refuse disposal services.
Water Supply	X	X	X	X	X	X						
Sanitary Sewers	X	X	X	X	X	X						
Sewerage Treatment Plants	X	X	X	X	X	X		X		X		
Storm Drainage and Flood Control						X			X	X		
Electricity, Gas and Telephone Service												
Refuse Removal and Disposal					X							
<u>Health</u>												
Clinics and Medical Services					X			X				
Hospitals and Paramedical Facilities										X		Hospital and paramedical facilities are primarily pro- vided through private means.
TB Sanitariums	X	X	X	X	X							
<u>Public Safety</u>												
Police Protection			X		X							
Correctional Facilities	X	X	X	X	X							
Fire Protection												
<u>Recreational Facilities</u>												
Parks												
Playgrounds												
Forest Preserves			X									
Indoor Recreational and Meeting Facilities												
Libraries												
<u>Education</u>												
Primary and Secondary Schools						X			X	X		
Trade and Vocational Schools						X			X			
Adult Education Facilities						X			X			
Junior Colleges									X			
Colleges and Universities									X			
<u>Housing and Redevelopment</u>										X		
<u>Civic, Governmental and Municipal Buildings and Facilities</u>	X	X	X	X	X							

KEY

Primary Duties With Respect to Elements of Urban Development

- PLN = Planning
ACQ = Acquisition of Sites and Coordination
FIN = Financing
CON = Construction
OPR = Operating
REG = Regulation and/or Policy Making

ELEMENTS OF URBAN DEVELOPMENT AND ROLES OF EACH TYPE OF LOCAL GOVERNMENT UNIT IN PROVIDING OR REGULATING EACH ELEMENT

KEY

Primary Duties With Respect
to Elements of Urban Development

PLN = Planning
ACQ = Acquisition of Sites and Coordination
FIN = Financing
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PEG = Regulation and/or Policy Making

C. Township Governments

Responsibility for secondary roads in unincorporated areas is a primary responsibility of the 25 township governments in the Study Area. Other major responsibilities include property tax assessment and support of indigents.

Expenditures by townships accounted for four percent of total expenditures by local government in 1962. Since 1962, township government activity appears to have been increasing at a somewhat faster rate than activities for all units of local government in the Study Area. Nevertheless, township functions are limited.

D. Municipal Governments

In 1960, 78 percent of the population of the Study Area resided in incorporated municipalities. The Study Area now includes 49 municipalities.^{1/}

Expenditures by municipalities accounted for 17 percent of total local government expenditures in 1962.

The major proportions of municipal expenditures, approximately 65 percent, were attributable to public safety (police and fire protection); street construction and maintenance; sewerage; and sanitation. Other categories which account for significant municipal expenditures are parks and recreation, libraries, and parking facilities.

There is a substantial division of responsibility among municipalities and special districts with respect to functions such as sewerage, water supply, and fire protection. In many categories, such as sanitation and health and hospitals, municipal expenditures are relatively low because the services and facilities are provided privately.

Along with the County governments, municipalities have the primary responsibility for guiding and regulating private development. The regulatory powers are mostly oriented to the use of land, construction of buildings, and the activities which take place either in or related to land and buildings.

Since 1962, municipal government activity has been growing at a very fast rate as a result of new incorporations, additional area being added to already existing municipalities through annexation, expansion of the scope of already existing services, and the addition of new services. Expenditure increases are especially high in the major functional categories, i.e., public safety, streets, and sanitation.

^{1/} See footnote on Page 44.

E. School Districts

The large proportion of school-age population in the Study Area has resulted in very high per capita expenditures on education as compared with other areas. Expenditures on education by the 62 school districts in the Study Area have been growing at a rate higher than most of the major functional categories of local government expenditures.

F. Special Districts

Expenditures by special districts accounted for eight percent of total local government expenditures in 1962. There were 109 single-purpose special districts in the Study Area in 1967 in addition to the 62 school districts. Outlays by park districts, numbering 25 in 1967, and two forest preserve districts constituted the major proportion of special district expenditures.

Fire protection districts (which numbered 51 in 1967), sanitary districts (numbering 12), and one hospital district accounted for most of the remaining special district expenditures. Other special districts, i.e., mosquito abatement, airport, water service, and street lighting, accounted for less than seven percent of the 1962 special district expenditures in the Study Area.

VII. PUBLIC FACILITY AND SERVICE TRENDS AND INVENTORY

The purpose of Preliminary Report III, Past Trends in the Development of Facilities and Services, was to inventory public facilities and services in the Accelerator Study Area, particularly those facilities and services that precede or accompany land development and/or population growth. The report is primarily concerned with an inventory of major public facilities related to education, recreation, highways, sewer systems, and water systems.

The report includes a brief discussion of certain trends in the development of facilities and services since 1960. Although measures of such trends are not always adequate, important changes in public facilities and services development became evident. These patterns of change often paralleled Study Area population and employment growth as shown in Preliminary Report I, Past Trends and Present Conditions of the Population and Economy.

Conclusions from this study can be summarized as follows:

A. Educational Facilities and Services

1. Between 1960 and 1968 the number of school-age children in the Study Area increased at a faster rate than did population.

While total population increased 35 percent, there was a 45 percent increase in the number of school-age children. The proportion of school-age children increased from 26 percent to 28 percent between 1960 and 1968. Accompanying the increase in the number of school-age children was a sharp increase in the proportion of high school students to total enrollment. Between 1960 and 1968 this proportion increased from 24 percent to 27 percent.

2. School districts serving eastern Du Page County townships (Addison, York, Bloomingdale, Milton, Downers Grove, and Lisle) had the greatest absolute enrollment growth in the Study Area between 1960 and 1967.

The school districts in Kane County showing the greatest enrollment growth serve primarily Elgin and Aurora townships. The highest rates of enrollment increase were observed in school districts serving primarily Naperville, Lisle, and Milton townships in Du Page County.

3. Available school facilities have been increasing at a rate sufficient to maintain roughly constant levels of excess enrollment (pupils in excess of normal capacity) in the Study Area.

In Du Page County, the rate of high school facilities construction reduced excess enrollment from 1,752 students in 1963 to 144 students in 1967. During the same period, however, there was a significant increase in the degree of overcrowding at the elementary school level. Excess enrollment increased from 907 to 1,911 students.

In Kane County, excess enrollment increased from 1,424 to 1,979 students --- even though the increase in the number of classrooms (31 percent) was greater than the increase in total enrollment (23 percent). The increase in excess enrollment in Kane County was attributable primarily to the difficulties that Elgin Unit District 46 has encountered in obtaining financing for much-needed school construction. Excess enrollment in this district, which was 829 in 1963, increased to 1,274 in 1967.

4. Of the 60 school districts in the Study Area, 20 were identified as having a significant shortage of classrooms and/or obsolescent facilities requiring replacement.

However, on the average, the districts with capacity problems have not had higher rates of enrollment increase relative to the Study Area as a whole, i.e., enrollment increased 30 percent in these districts between 1960 and 1967 compared with a 56 percent increase for the Study Area. Five of the districts, however, did have rates of enrollment increase in excess of the Study Area average. These districts appeared to have financial problems which mitigated against adequate facilities construction as indicated by (a) a low tax base relative to the Study Area mean for that type of district, or (b) a large proportion (more than 80 percent) of legally constituted bonding power already utilized.

Most of the 20 school districts with capacity problems suffered significant declines in their per-pupil tax base between 1960 and 1967 as enrollment increases outpaced residential, commercial, and industrial growth.

5. School enrollment increases have accounted for about 70 percent of the expenditure increases for the provision of educational services in the Study Area.

Of the \$28 million increase in expenditures on educational services between 1962 and 1966, enrollment increases accounted for approximately \$19 million. Since school operating expenditures exclusive of capital outlays constitute almost two-thirds of all local government operating expenditures, the impact of school costs deriving from enrollment increases looms very large in the local finance picture.

6. Much of the expenditure increase may also be derived from increases in the scope and quality of educational services provided in the Study Area.

Between 1962 and 1966, per-pupil expenditures in the Study Area increased from \$508 per pupil to \$602 per pupil, or 18 percent. During the same period, mean per-pupil expenditures in the state as a whole, which were slightly lower in 1962 (\$504 per pupil in Illinois compared with \$508 in the Study Area), increased 13 percent.

7. The sharp increase in school costs also derived from such factors as (a) important components of educational costs, e.g., teachers' salaries rising at faster rates than the general price level, and (b) an increase in the proportion of high school students to total enrollment.

The proportion of high school enrollment to total enrollment increased from 24 percent in 1960 to 27 percent in 1968. High schools generally require much higher per-pupil outlays on facilities and services than do elementary schools. It is estimated that the 1960-1967 increase in the proportion of high school to total enrollment requires over one-half million dollars annually in increased school operating outlays.

8. There is variability in the level of educational services provided within the Study Area.

In 1965-1966, per-pupil expenditures ranged from a high of \$642 per pupil in the Hinsdale subgroup (i.e., the Hinsdale High School District and those elementary school districts that serve the area roughly coextensive with the Hinsdale High School District) to a low of \$545 in both Elgin and Dundee Unit Districts.

9. The factor of most significance in determining expenditures on educational services as well as the adequacy of school facilities provided is the per-pupil tax base.

Controlling for other variables, a difference, for example, of \$1,000 in per-pupil assessed valuations in Du Page County elementary schools results in a \$38 difference in annual per-pupil operating expenditures.

Between 1962 and 1966 the mean per-pupil assessed valuation base in the Study Area declined from \$19,100 to \$16,200, or 15 percent, providing a constraint on the ability of some school districts to finance desirable levels of facilities and services.

B. Recreational Facilities and Services Inventory

1. The over-all demand for recreational facilities has been increasing in the Study Area.

The population of the Study Area had grown to 704,100 in 1968, an increase of 35 percent since 1960. In addition, other socio-economic changes, such as rising family income, increased mobility, and greater leisure time, have increased the demand for recreational facilities. Also, Cook County's inability to completely satisfy its increased demand for recreational facilities has resulted in a "spill-over" demand affecting the Study Area.

2. There has been an increase in the supply of park lands.

None of the park districts in the Study Area have decreased the amount of land they hold for parks, and some have increased their holdings by as much as 930 percent since 1960. In addition, 16 new park districts have been formed since 1960, bringing the total to 32.

3. The increase in the supply of forest preserve land has been greater than the population increase.

Forest preserve acreage in the Study Area had grown to 5,355 acres by 1968 --- an increase of 146 percent over the 1960 acreage. The number of individual preserves had grown to 36 in 1968 compared to 28 preserves in 1960. Even more significant, in 1968 there were 7.6 acres of forest preserve per 1,000 residents in the Study Area, while in 1960 there were only 4.2 acres per 1,000 residents.

4. The quality and quantity of recreational facilities, other than land, have also been increasing.

Park and forest preserve districts have been providing additional facilities such as swimming pools, ski runs, ice rinks, canoes, sail boats, camp sites, and field houses to better meet the demand for more recreational activities and improved recreational facilities.

C. Highway Facilities and Services Inventory

1. The over-all highway pattern in the Study Area has not changed significantly since 1959.

Total highway mileage (freeways, expressways, major highways, major through streets, and collector roads) in 1959 was approximately 1,059 miles. In 1965

there were 1,110 miles. The increase in mileage is due mainly to re-definition of certain existing minor roads in 1959 to that of Collector Highways in 1965 because of an increase in traffic volume on those highways. The actual highway pattern itself has changed very little since 1959.

2. Traffic volumes for the Study Area, however, have increased by substantial amounts since 1959.

The volume of traffic entering and leaving the Study Area increased 83 percent between 1959 and 1965. Traffic entering and leaving Du Page County during the same period increased 88 percent, and in Kane County the increase was 45 percent.

3. Total vehicle registrations between 1960 and 1967 within the Study Area have increased at a greater rate than the increase in population.

Vehicle registrations increased 53 percent for the Study Area as a whole between 1960 and 1967. In Du Page County, vehicle registration increased 62 percent, and in Kane County the increase in vehicle registration was 39 percent. Population increases between 1960 and 1968 were 35 percent for the Study Area, 44 percent for Du Page County, and 21 percent for Kane County. The number of automobile registrations per household in 1960 for the Study Area as a whole was 1.56. In 1967 it was about 1.76. In Du Page County, the number of automobiles per household in 1960 was 1.57. In 1967 it was 1.77. In Kane County, automobiles per household were 1.56 in 1960 and 1.76 in 1967.

4. New freeways and certain major highways serve as forerunners of development somewhat like that of the commuter railroads in the past.

In times past, most municipalities in the Study Area were created along the routes of the commuter railroads --- especially in Du Page County. Relatively new major "through" highways have been built between the commuting railroads, again especially in Du Page County. However, the development taking place along the new highways is not necessarily residential in character; nor are new municipalities as such being created. A considerable amount of industrial development is taking place along the new highways, and existing municipalities have been expanding their boundaries and annexing land in the interstices between the commuting railroads and the new highways. The East-West Tollway exemplifies these trends.

5. The State of Illinois Highway System within the Study Area has gross deficiencies.

The State Highway Commission has completed an inventory of all highways and roads in the state. As of 1966, the State Highway System was considered (by minimum standards) to be 47 percent deficient in both Du Page and Kane counties. The north-south highways throughout the Study Area are particularly in need of upgrading. In Du Page County, there are very few north-south through highways.

6. Capital expenditures for highway improvement averaged approximately \$9.5 million between 1957 and 1962 for the Study Area as a whole.

Of this, 74 percent was spent by the State of Illinois; 13 percent was spent by the two Study Area counties (eight percent by Du Page County and five percent by Kane County); and 13 percent by the various municipalities. Since 1962, highway expenditures by the State of Illinois in the Study Area have decreased relative to 1957-1962 levels from an average of \$7.1 million per year for the period 1957-1962 to \$5.8 million per year for the 1962-1967 period.

D. Public Sewerage System Facilities and Services Inventory

1. Although the population in the Study Area has been increasing rapidly, the percentage of the total population served by public sewerage systems has increased at an even greater rate.

In 1960 the population in the Study Area was 521,700. At that time, 75 percent of the population was served by public sewerage systems. In 1968 the population of the Study Area was estimated as 704,100. Approximately 85 percent of the 1968 population is now served by public sewerage systems. The proportions of the Du Page County population served by public sewerage systems were 71 percent in 1960 and 82 percent in 1968. In Kane County, 82 percent of the population was served by public sewerage systems in 1960 compared to 91 percent in 1968.

2. Most of the public sewerage systems in the Study Area are owned and operated by municipalities or sanitary districts. Municipal and sanitary district ownership also accounts for most of the population served by public sewerage systems in the Study Area.

Forty-five public sewerage systems have been listed in the Study Area as of 1968. Twenty-two are municipally owned systems, eight are sanitary district systems, eight are subdivision systems including utilities, and seven are Du Page County-owned or operated systems. In 1968 municipal and sanitary district systems together accounted for 93 percent of total public sewage treatment capacity, and they served 90 percent of the Study Area population served by public sewerage systems.

3. Over-all treatment capacity within the Study Area more than doubled between 1960 and 1968 --- from a total of almost 500,000 design P.E. (population equivalent) to over one million design P.E.

Municipally owned systems increased their treatment capacity between 1960 and 1968 by 89 percent; sanitary districts increased their capacity by 126 percent; subdivision systems increased capacity by 96 percent; and Du Page County-owned systems increased capacity by almost 400 percent.

4. About one-half of the public sewerage systems in the Study Area are on some type of restriction.

Recently, the Illinois Sanitary Water Board, in conjunction with the Federal Water Pollution Control Administration of the U.S. Department of the Interior, upgraded the water quality standards of all Illinois streams. Streams included in the Study Area are Salt Creek, the East and West Branches of the Du Page River, and the Fox River. These new water quality standards require an increased degree of treatment of all waste water in the Study Area. As a result, all public sewage treatment plants in the Study Area are currently undergoing upgrading in order to meet the new water quality requirements. About one-half of the systems are on some type of restriction imposed by the Sanitary Water Board. Actually, most of the systems in the Study Area are basically sound, but some do require improvement in the quality of their effluent in order to meet the new water quality requirements.

5. Du Page County proposes to construct, operate, and maintain county-wide waste water intercepting sewers and treatment facilities to provide complete, full capacity service to all parts of the county.

Two possible County-operated systems for providing county-wide sewerage service in Du Page County have been suggested. One system includes a

network of intercepting sewers throughout the county to collect all waste water discharged from local sewerage systems and then to convey this sewage to a large, single treatment facility located at the south end of the county. The other system proposes nine separate treatment facilities distributed throughout the county --- each with its separate intercepting sewer system. The sanitary districts in Du Page County have suggested an alternative plan involving 11 to 14 sewage treatment plants (mostly existing plants) to be operated by five sanitary districts.

E. Public Water System Facilities and Services Inventory

1. Water pumpage in the Study Area more than doubled between 1955 and recent years.

Public water pumpage in the Study Area increased 149 percent between 1955 and recent years (1965-1968). In Du Page County, pumpage increased 237 percent, while in Kane County the increase was 79 percent.

2. The quantity and quality of ground water in the Study Area has been adequate up to the present, but there are indications that certain deep aquifers are being dewatered over and above their recharge or sustained yield rate.

Of the 75 million gallons a day of ground water pumped in the Study Area in 1966, eight percent was drawn from sand and glacial drift aquifers, 41 percent from shallow dolomite aquifers, and 51 percent from the deep sandstone aquifers. Pumpage from the deep aquifers each year since 1958 has exceeded the recharge or sustained yield rate.

3. There is an adequate supply of water in the Study Area despite excessive dewatering of the deep sandstone aquifers.

The total supply of water is much greater than the amount used at this time. However, to insure future adequate supply, much more needs to be done toward the efficient management of water --- for example, control and use of surface runoff, reuse of water, recharge of certain aquifers from the surface, etc. Such management efforts appear to be essential in the future, and they will require substantial initial outlays of capital. The billion dollar bond issue (Water Plan for Illinois), if it had passed, would have provided an important beginning for statewide water resources management.

F. Other Public Facilities and Services

Four other public service functions which are not prerequisites for growth, but which inevitably accompany a community's development show no consistent patterns of difference between Du Page County and Kane County. On the whole, Kane County probably provides superior library services, but both counties offer roughly the same facilities and services for health protection, police protection, and fire protection. Though the capacity for health care and for library service has grown in the Study Area, much of this change has simply kept pace with the growing population.

VIII. LAND USE AND PUBLIC FACILITY REQUIREMENTS

Preliminary Report VI, Projections of Land Use and Public Facility Requirements with and without Accelerator, translated the projections of future population and economic activity into requirements for land and improvements for various uses. These land-use and public facility estimates were designed primarily to identify the potential development impact of the Accelerator and other catalysts of growth. While the estimates are also intended to be useful in development planning, they were meant to be inputs to planning, not plans themselves. Projections of land-use requirements were made by townships for residential, commercial, industrial, recreational, institutional, transportation, and undeveloped land. Projections of public facility requirements were made by counties only, i.e., education, recreation, transportation, and other public facilities and services.

The conclusions regarding land-use and public facility requirements were as follows:

A. Urbanization Trends

1. By 1985 the Study Area will be significantly more urbanized and the percentage increases in land use will closely parallel those of population.

All categories of developed land use show substantial absolute and percentage increases between 1965 and 1985. Conversely, the decline in undeveloped land is also significant during the same period. The reader is referred to Table 5. For example, under the Set A projection, population of the entire Study Area is projected to increase by about 74 percent, while total residential land under the same set is projected to increase by 66 percent. (See Table 7.) This conclusion, of course, is to be expected, since the population projections to a large extent form the basis for the land-use projections.

2. Land for multi-family residential development is projected to increase at the most rapid rate of all land-use categories.

The percentages are higher in part because the 1968 base figure is relatively low as a percentage of total land. In absolute terms, land for single-family residential development is projected to increase more than any other land use. Thus, the Study Area is projected to retain its predominantly residential character. This is true in spite of the fact that other land uses --- namely, commercial, industrial, and institutional uses --- are projected to increase at a more rapid rate than is total residential land.

Table 7. SUMMARY OF ALTERNATIVE FORECASTS OF LAND-USE REQUIREMENTS
IN THE STUDY AREA, 1968-1985

Land-Use Category	Area	Land Use (in Acres) 1985			Normal Growth Forecasts (Set A, 1985 Over 1968)	Impact of Accelerator (Set B, 1985 Over Set A, 1985)	Impact of Accelerator and Other Growth Catalysts (Set C, 1985 Over Set A, 1985)
		Without Accelerator		With Accelerator			
		A	B	C			
Total Residential							
Total Study Area		62,178	103,304	108,410	41,126	5%	15,297
Du Page County		41,776	72,558	78,570	30,782	3%	8,012
Kane County		20,402	30,746	40,031	10,344	9%	9,285
Single-Family Residential							
Total Study Area		60,131	94,849	99,319	34,718	5%	13,189
Du Page County		40,680	66,624	68,602	25,944	3%	5,249
Kane County		19,451	28,225	30,717	8,774	9%	7,940
Multi-Family Residential							
Total Study Area		2,047	8,455	9,091	6,408	8%	2,108
Du Page County		1,096	5,934	6,175	4,838	4%	1,763
Kane County		951	2,521	2,916	1,570	16%	1,345
Commercial							
Total Study Area		3,972	7,039	7,408	3,067	5%	1,625
Du Page County		2,496	4,785	4,944	2,289	3%	719
Kane County		1,476	2,254	2,464	778	9%	906
Industrial							
Total Study Area		3,961	11,260	12,168	7,299	8%	3,008
Du Page County		2,324	7,704	8,391	5,380	27%	2,088
Kane County		1,637	3,556	3,777	1,919	6%	920
Recreational							
Total Study Area		16,838	22,045	22,470	5,207	2%	1,698
Du Page County		11,290	15,180	15,227	3,890	4%	1,583
Kane County		5,548	6,865	7,243	1,317	6%	1,115
Institutional							
Total Study Area		8,904	13,019	20,328	4,115	56%	8,329
Du Page County		6,150	9,233	14,954	3,083	62%	6,095
Kane County		2,754	3,786	5,374	1,032	42%	2,231
Transportation							
Total Study Area		7,793	12,304	12,876	4,511	5%	1,422
Du Page County		5,064	8,333	8,707	3,269	4%	818
Kane County		2,729	3,971	4,169	1,242	5%	604
Undeveloped							
Total Study Area		440,674	375,349	360,660	-65,325	-4%	-31,379
Du Page County		142,100	93,407	84,200	-48,693	-10%	-16,318
Kane County		298,574	281,942	276,460	-16,632	-6%	-15,061

Note: The numbers shown for absolute forecasts are only significant to hundreds, but are not rounded for statistical convenience.

3. By 1985 Du Page County is projected to be about 60 percent developed, while Kane County as a whole will remain predominantly rural.

Thus, after 1985 there should still be a substantial amount of developable land in Du Page County --- permitting much additional growth. Moreover, Kane County probably will be one of the major growth areas in the Chicago region in future decades.

4. The Accelerator itself will cause a significant increase in the Study Area's institutional use.

The total of approximately 6,800 acres in the Accelerator site causes a very substantial percentage increase in institutional (including government) land use under sets B and C (which assume the Accelerator) as opposed to Set A (which assumes no Accelerator).

B. Conclusions Regarding Township Development Patterns

The accompanying Table 8 contains figures on the total developed acreage in each township for the years 1968 and 1985 --- plus absolute and percentage changes in developed acreage during the period. This information supports the following conclusions regarding township development patterns.

The Accelerator alone makes only a small difference in the development of the Study Area. Differences in the total land absorption rate attributable to the Accelerator vary from two percent in Kane County (where developed land increases from a 15 percent rate to a 17 percent rate) to four percent in Du Page County (where the increase in rate is from 56 percent to 60 percent).

Winfield Township will experience the greatest absolute and relative increases in developed land between 1968 and 1985 attributable to the Accelerator. However, nearly 90 percent of this increase is accounted for by the 5,500-acre portion of the Accelerator site itself. Batavia Township will experience the second greatest impact in terms of land development --- also mostly (80 percent) because of the 1,300 acres of the Accelerator located there. However, the low intensity of the Accelerator development will make it appear more like permanent open space than typical urban development.

The maximum promotional and improvement efforts (Set C projection) make only a small percentage difference, but a significant absolute difference, in additional land absorbed above that directly attributable to the Accelerator. Differences in

		Percent of Land Area Developed	
County	Township	1985	
		B	C
<u>Total Study Area</u>		34%	37%
<u>Du Page County</u>		60%	63%
Addison		78%	79%
Bloomington		50%	52%
Downers Grove		63%	64%
Lisle		59%	62%
Milton		73%	77%
Naperville		43%	52%
Wayne		29%	38%
Winfield		65%	67%
York		81%	81%
<u>Kane County</u>		17%	20%
Aurora		52%	57%
Batavia		48%	56%
Dundee		31%	33%
Elgin		48%	61%
Geneva		31%	47%
St. Charles		32%	41%
Western Kane County Townships		5%	6%

Note: The numbers shown for absolute projections are on

Source: Real Estate Research Corporation

Table 8. SUMMARY OF TOWNSHIP DEVELOPMENT PATTERNS TO 1985

County	Township	Total Land Area	Developed Land Area (in Acres)				Percent of Land Area Developed			
			1968	1985			1968	1985		
				A	B	C		A	B	C
<u>Total Study Area</u>		544, 320	103, 646	168, 971	183, 660	200, 350	19%	31%	34%	37%
<u>Du Page County</u>		211, 200	69, 100	117, 793	127, 000	134, 111	33%	56%	60%	63%
	Addison	21, 120	9, 552	16, 453	16, 461	16, 607	45%	78%	78%	79%
	Bloomingtondale	22, 144	5, 457	10, 742	11, 043	11, 525	25%	49%	50%	52%
	Downers Grove	32, 128	14, 591	20, 294	20, 374	20, 519	45%	63%	63%	64%
	Lisle	22, 848	6, 255	12, 882	13, 399	14, 081	27%	56%	59%	62%
	Milton	21, 888	9, 715	15, 493	16, 023	16, 894	44%	71%	73%	77%
	Naperville	22, 592	3, 009	8, 527	9, 627	11, 706	13%	38%	43%	52%
	Wayne	22, 720	2, 325	6, 017	6, 621	8, 725	10%	26%	29%	38%
	Winfield	22, 720	4, 913	8, 915	14, 857	15, 328	22%	39%	65%	67%
	York	23, 040	13, 283	18, 470	18, 595	18, 726	58%	80%	81%	81%
<u>Kane County</u>		333, 120	34, 546	51, 178	56, 660	66, 239	10%	15%	17%	20%
	Aurora	22, 528	9, 032	11, 597	11, 693	12, 857	40%	51%	52%	57%
	Batavia	12, 224	2, 625	4, 097	5, 809	6, 794	21%	34%	48%	56%
	Dundee	23, 104	4, 255	7, 101	7, 208	7, 521	18%	31%	31%	33%
	Elgin	21, 248	6, 494	9, 388	10, 219	12, 971	31%	44%	48%	61%
	Geneva	10, 240	1, 949	2, 887	3, 131	4, 799	19%	28%	31%	47%
	St. Charles	21, 952	4, 183	6, 165	7, 127	8, 923	19%	28%	32%	41%
	Western Kane County Townships	221, 824	6, 008	9, 943	11, 473	12, 374	3%	4%	5%	6%

Note: The numbers shown for absolute projections are only significant to tens; but are not rounded for statistical convenience.

Source: Real Estate Research Corporation

the total land absorption rate attributable to maximizing efforts add only three percentage points to the rate, but the difference still amounts to about 26 square miles between sets B and C for the Study Area as a whole.

In Du Page County, there is a close correlation between accessibility to the Chicago central area (implying both time and distance criteria) and the percentage of total land developed. For example, York Township, which is judged to be most accessible, is projected to be about 80 percent developed by 1985; while Wayne Township, which is judged to be least accessible, is projected to be only about one-third developed by 1985 (saturation for all practical purposes is believed 90 percent development).

In Kane County, the townships in the Fox River Valley which have an existing large community to serve as a "growth center" are projected to be about one-half developed by 1985. Specifically, the townships are Aurora (projected to be between 51 and 57 percent developed), Batavia (projected to be between 34 and 56 percent developed), and Elgin (projected to be between 44 and 61 percent developed).

Western Kane County townships as a group will remain essentially rural areas. While these ten townships will have increased their developed land area from 6,000 to a maximum of about 12,000 acres, they only will have increased their percentage of developed area from three percent to a maximum of six percent.

C. Conclusions Regarding Public Facility Requirements

Accompanying this set of conclusions is Table 9, which presents a summary of selected public facility and service requirements in 1985. Those selected were included because: (1) they called for significant increases, thus resulting in substantial public expenditures; (2) they are important facilities and services in attracting and fostering population growth; and (3) statistics were available regarding the present quantity of facilities and services to use as a comparative base. Conclusions drawn from Table 9 are the following:

In cases where standards of facilities or services are uniform for all three projections, the percentage increases from 1968 to 1985 correlate closely with percentage increases in land use or population upon which they were based. For example, the percentage increases in sewerage and water requirements correlate with the weighted average of the population projections for corresponding years and projection sets.

<u>Facility or Service Area</u>	<u>1968</u>	<u>C</u>	
<u>Short-Term General Hospital Beds</u>			
Total Study Area	2, 177	4, 776	219%
Du Page County	1, 051	3, 447	328%
Kane County	1, 126	1, 329	118%
<u>Long-Term Hospital and Nursing</u>			
<u>Home Beds</u>			
Total Study Area	2, 219 ¹	4, 039	182%
Du Page County	1, 097	2, 951	269%
Kane County	1, 122 ¹	1, 088	97%
<u>Police Units (patrol car plus</u>			
<u>1-1/2 policemen)</u>			
Total Study Area	566	1, 102	195%
Du Page County	360	719	200%
Kane County	206	383	186%
<u>Elementary School Classrooms</u>			
<u>(grades K-8)</u>			
Total Study Area	4, 696	5, 156	110%
Du Page County	2, 877	3, 976	138%
Kane County	1, 819	1, 180	65%
<u>Secondary School Classrooms</u>			
<u>(grades 9-12)</u>			
Total Study Area	2, 012	2, 875	143%
Du Page County	1, 178	1, 992	169%
Kane County	834	883	106%
<u>Sewage Treatment Capacity (mgd)</u>			
Total Study Area	58. 22	63. 19	109%
Du Page County	36. 29	37. 20	103%
Kane County	21. 93	25. 99	119%
<u>Water Treatment and Distribution</u>			
<u>Capacity (mgd)</u>			
Total Study Area	74. 95	62. 31	83%
Du Page County	41. 53	35. 83	86%
Kane County	33. 42	26. 48	79%

¹ Excludes Elgin State Hospital which has 6, 251 beds for

Note: The numbers shown for all absolute projections are

Source: Real Estate Research Corporation

Table 9. SUMMARY OF SELECTED PUBLIC FACILITY AND SERVICE REQUIREMENTS IN 1985

Facility or Service Area	Number of Units				Absolute and Percentage Changes, 1968 to 1985					
	1968	1985			A		B		C	
		A	B	C						
<u>Short-Term General Hospital Beds</u>										
Total Study Area	2, 177	5, 511	5, 703	6, 953	3, 334	153%	3, 526	162%	4, 776	219%
Du Page County	1, 051	3, 785	3, 807	4, 498	2, 734	260%	2, 756	262%	3, 447	328%
Kane County	1, 126	1, 726	1, 896	2, 455	500	53%	770	68%	1, 329	118%
<u>Long-Term Hospital and Nursing Home Beds</u>										
Total Study Area	2, 219 ¹	4, 899	5, 069	6, 258	2, 680	121%	2, 850	128%	4, 039	182%
Du Page County	1, 097	3, 365	3, 384	4, 048	2, 268	207%	2, 287	208%	2, 951	269%
Kane County	1, 122 ¹	1, 534	1, 685	2, 210	412	37%	563	50%	1, 088	97%
<u>Police Units (patrol car plus 1-1/2 policemen)</u>										
Total Study Area	566	1, 225	1, 267	1, 668	659	116%	701	124%	1, 102	195%
Du Page County	360	841	846	1, 079	481	134%	486	135%	719	200%
Kane County	206	384	421	589	178	86%	215	104%	383	186%
<u>Elementary School Classrooms (grades K-8)</u>										
Total Study Area	4, 696	8, 732	8, 991	9, 852	4, 036	86%	4, 295	91%	5, 156	110%
Du Page County	2, 877	6, 407	6, 431	6, 853	3, 530	123%	3, 554	124%	3, 976	138%
Kane County	1, 819	2, 325	2, 560	2, 999	506	28%	741	41%	1, 180	65%
<u>Secondary School Classrooms (grades 9-12)</u>										
Total Study Area	2, 012	4, 278	4, 436	4, 887	2, 266	113%	2, 424	120%	2, 875	143%
Du Page County	1, 178	2, 962	2, 978	3, 170	1, 784	151%	1, 800	153%	1, 992	169%
Kane County	834	1, 316	1, 458	1, 717	482	58%	624	75%	883	106%
<u>Sewage Treatment Capacity (mgd)</u>										
Total Study Area	58.22	106.15	110.23	121.41	47.93	82%	52.01	89%	63.19	109%
Du Page County	36.29	68.72	69.11	73.49	32.43	89%	32.82	90%	37.20	103%
Kane County	21.93	37.43	41.12	47.92	15.50	71%	19.19	88%	25.99	119%
<u>Water Treatment and Distribution Capacity (mgd)</u>										
Total Study Area	74.95	119.13	124.15	137.26	44.18	59%	49.20	66%	62.31	83%
Du Page County	41.53	72.34	72.75	77.36	30.81	74%	31.22	75%	35.83	86%
Kane County	33.42	46.79	51.40	59.90	13.37	40%	17.98	54%	26.48	79%

¹ Excludes Elgin State Hospital which has 6, 251 beds for mental patients.

Note: The numbers shown for all absolute projections are only significant to tens; but are not rounded for statistical convenience.

Source: Real Estate Research Corporation

In cases where a higher standard was deemed appropriate for the Set C projection, the increase in level of service or facilities was significantly higher than the corresponding increase in the basic factor upon which the projection was based. For example, fire protection requirements are based upon developed land area. In 1985 for the entire Study Area, total developed land is projected to be about 184,000 acres under Set B and about 200,000 acres under Set C --- so the Set C projection is only nine percent higher than the B projection. However, the corresponding fire company projections are 131 companies under Set B and 203 companies under Set C, or 55 percent higher than the B projection.

In most cases, the percentage increases in public facility and service requirements substantially exceed the comparable percentage increases in population. The only significant exceptions to this conclusion are (1) the requirements for major roadways, and (2) the requirements for elementary school classrooms in Kane County.

The difference between the percentage population increases and percentage public facility and service increases indicates that the Study Area is not providing "standard" amounts of facilities and services at present. Stated another way, the difference in percentage increases indicates that the Study Area will have to accelerate the provision of facilities and services in the future if it is to come up to recommended standards.

The most consistently pressing future need for both counties (although by no means the most expensive) will be for increased health-care capacity, which must increase by an average of over 160 percent under all projection sets. Other prominent needs are for additional police units in both counties. Du Page County will need to accelerate its provision of school classrooms faster than increases in population.

Increases in recreational facility requirements between 1970 and 1980 are directly related to increases in population. This is true because the standards for providing recreation facilities are directly related to population. For the Study Area as a whole, the increase in requirements amounts to 64 percent under Set A, 68 percent under Set B, and 81 percent under Set C.

IX. COSTS AND BENEFITS

Preliminary Report VII, Identification and Quantification of Costs and Benefits, is essentially an analysis of the cost and revenue implications of urban development related to the establishment of the Accelerator and other catalysts of growth in Du Page and Kane counties. While the analysis concentrated on governmental costs and revenues, private costs and revenues were also taken into account.

The analysis was intended to serve four primary purposes. These were: (1) to quantify the development impact of the Accelerator on costs and revenues; (2) to provide inputs to the long-range planning process in the Study Area; (3) to provide insight into the most appropriate level of information activity which might be undertaken by the State to maximize the impact of the Accelerator; and (4) to provide inputs to the planning and action strategy recommendations contained in Preliminary Report VIII, Suggested Planning and Action Strategy.

Structurally, the report was divided into three major parts: (1) identification and quantification of the costs and revenues accruing to various governmental jurisdictions; (2) analysis of the cost and revenue relationships with emphasis on the "gap" between costs and revenues and some analysis of the requirements for the elimination of the gaps; and (3) conclusions regarding the financial requirements of development under three alternative levels of population and economic growth and conclusions with regard to the level of information activity which might best be undertaken by the State.

A summary of the cost and benefits analysis is as follows:

A. Fiscal Characteristics of Study Area

Compared to other suburban SMSA's, the Study Area can be characterized as one with very high per capita incomes, a low level of local government expenditures and taxes in relation to personal income, and a rather large percentage of local government expenditures financed by local taxes.

In 1965, per capita personal income in the Study Area was \$3,100 as compared with an average of \$2,732 for 38 suburban SMSA's. Direct general expenditures were seven percent, and local taxes were five percent of personal income in the Study Area. In the 38 suburban SMSA's, direct general expenditures were ten percent and local taxes were six percent of personal income.

The Study Area provides a substantial proportion of its fiscal needs from local sources with relatively little reliance on State and Federal aids. State and Federal aid in 1965 to local government was \$35 per capita compared with an average of \$88 in the 38 suburban SMSA's.

In comparison with other suburban areas, local government in the Study Area thus appears to possess a rather strong fiscal capacity and an ability to absorb rising per capita expenditure increases with less strain on the local tax base than elsewhere.

B. Revenue-Expenditure Relationships

Local government direct general operating expenditures and revenues were projected to 1985 under the alternative growth assumptions, i.e., local government expenditures and revenues assuming (1) no Accelerator impact (Set A projection); (2) the direct and indirect impact of the Accelerator only (Set B projection); and (3) the impact of the Accelerator and realization of other developmental impacts designed to maximize economic growth in the Study Area (Set C projection).

The following summarizes the effect on both educational and noneducational revenues and expenditures to 1985, given alternative assumptions regarding revenues, i.e., (1) the maintenance of a constant tax structure in the presence of an expanding projected tax base, and (2) revenues as a constant proportion of projected personal income.

1. Noneducational Revenues and Operating Expenditures, Assuming No Accelerator

a. Under Constant Tax Rate Assumption

Under the assumption of a constant tax rate structure (current taxes and tax rates) in the Study Area throughout the projection period, revenue "gaps" (i.e., an excess of expenditures over revenues) will begin to emerge as early as 1970 for most types of local government units. In Du Page County, the largest noneducational revenue gap will appear in municipal and special district jurisdictions. Per capita revenues in the jurisdictions will account for only about 60 percent of projected per capita operating expenditures by 1985.

The same fiscal disparities will become evident in Kane County by 1985. The noneducational revenue gap for municipal and special district jurisdictions will amount to about \$30 per capita by 1985. In other words, revenues will account for only 77 percent of expenditures.

b. Under Constant Proportion of Per Capita Income Assumption

If per capita noneducational revenues were projected as a constant proportion of per capita income as existed in 1967, per capita revenues,

for the most part, would be sufficient to match projected per capita expenditures. The only exception would be the "other local government" category (i.e., municipalities and special districts) of revenues and expenditures in Du Page County. Per capita revenues in this category are projected to cover only 74 percent of per capita expenditures. Thus, with one exception, relative tax burdens on per capita income need not increase from their 1967 levels in order to match projected per capita noneducational expenditure levels by 1985.

2. Educational Revenues and Operating Expenditures, Assuming No Accelerator

a. Under Constant Tax Rate Assumption

In both Kane and Du Page counties, the fiscal disparities will become most severe between educational revenues and expenditures. In Du Page County, the educational revenue gap is projected to widen to \$57 per capita by 1985; while in Kane County, by 1985 the gap is expected to widen to about \$76 per capita.

b. Under Constant Proportion of Per Capita Income Assumption

If per capita educational revenues are held as a constant proportion of per capita income throughout the projection period, neither Du Page County nor Kane County will experience severe fiscal imbalance.

In the case of Du Page County, the maintenance of the current educational tax burden on per capita incomes to 1985 will provide sufficient revenues to cover projected educational operating expenditures. Kane County per capita educational revenues are projected to cover about 88 percent of projected educational expenditures under this assumption. In order to completely close this revenue gap in Kane County, per capita educational revenues as a percent of per capita income will have to increase from 3.3 percent in 1967 to 3.7 percent in 1985.

C. Impact of the Accelerator on Revenues

1. Du Page County

The Accelerator impact on per capita revenues will not be significant in Du Page County. The establishment of the Accelerator will increase per capita revenue by only three percent (Set B projection) by 1985. Under the assumption of a maximum development effort on the part of the State (Set C projection), per capita revenues will increase by four percent. Also under the Set C projection, it is anticipated that residential property owners will bear less of the total property tax burden than under the Set B projection.

The following factors have contributed to these impact characteristics:

- a. Both the B and C projection sets consist of a greater impact on industrial growth than on population growth. This results in a larger per capita tax base and thus larger per capita revenues in these two projection sets.
- b. The smaller impact on per capita revenues under the Set C projection (\$3) relative to the Set B projection (\$9) results from the changing character of residential development under the Set C projection. Under the Set C projection, a higher proportion of total residential growth is accounted for by multi-family units than is the case under the Set B projection. This serves, in effect, to reduce per capita property tax assessments and thus per capita revenues under the Set C projection. Thus, the effect of a more rapid rate of industrial growth relative to population growth under the Set C projection is partially offset by the changed character of residential growth.
- c. The more rapid rate of industrial growth relative to population growth under the Set B projection has the effect of lowering the property tax burden on residential property owners. Under the Set A projection, 79 percent of total assessments will be accounted for by residential property. Under the Set B projection, this is reduced to 77 percent and under the Set C projection to 73 percent. Thus, while total assessments rise with each projection set, the residential portion declines.

2. Kane County

The impact of the Accelerator on per capita revenues in Kane County will be slightly negative under the Set B projection. Per capita revenue is, in this case, projected to fall by about one-half of one percent from the base line (Set A) projection in 1985. On the other hand, extensive promotional activities on the part of the State and other improved ways of doing things, as assumed in the Set C projection, will have a favorable impact on per capita revenues. Under the Set C projection, per capita revenue will show a net increase of about \$8 over the Set B projection in 1985. This is an increase of about three percent. Thus, in Kane County per capita revenue increases will accrue only with the realization of the developmental impacts under the Set C projection. These impact characteristics result from the following factors:

- a. The Set B projection results in a greater impact on population than on employment in Kane County. Under the Set C projection, the impact on employment and population is expected to be approximately the same.

The result is that under Set B the population grows at a relatively faster rate than does the property tax base, and under the Set C projection the property tax base grows at a slightly higher rate than does population. Thus, under the Set B projection, per capita revenues fall slightly, whereas under Set C, per capita revenues increase somewhat.

- b. The effect of the differing rates of population and employment growth between the B and C projections is accentuated by the changing character of residential development between the projection sets. In 1985 multi-family residential units as a percentage of total residential units under the Set A projection are 44 percent. Under Set B this percentage is projected to be 47, and under Set C the percentage is projected to be 46 percent. As multi-family residential units generally add less per capita to the property tax base than do single-family units, the effect of the mix in the Set B projection is the tendency for lower per capita assessments and thus per capita revenues. Under the Set C projection, where the single-family proportion of total residential units rises slightly from the Set B projection, there is a tendency for higher per capita assessments and thus revenues.

D. Capital Expenditures

1. Impact of Growth on Local Government Capital Expenditures

a. Total Capital Expenditures

Increased population growth deriving from the Accelerator impact will greatly increase per capita capital expenditures during the period 1968-1985. Annual average per capita local government capital expenditures will increase \$5.14, or eight percent, over the 1985 Set A projection. If maximum growth is attained (under the Set C projection), annual average per capita expenditures will increase \$16.40 per capita, or 24 percent.

The capital expenditures impact of the Accelerator bears most heavily on Kane County local governments. Annual average per capita expenditures in Kane County will increase \$15.01, or 32 percent, as a result of the Accelerator (Set B projection) over that level expected without the Accelerator (Set A projection). Under maximum growth assumptions (Set C projection), the increase will be \$35.08, or 74 percent.

In Du Page County, the increase in per capita capital expenditures deriving from the Accelerator impact will be comparatively small. Annual average per capita expenditures of all local governments will increase \$2.44, or three percent, as a result of the Accelerator (Set B projection) over that

level expected without the Accelerator (Set A projection). Under maximum growth assumptions (Set C projection), the per capita increase will be \$9.21, or 12 percent greater than the Set A projection.

b. Educational Expenditures

Capital expenditures on education, especially in Kane County, will experience substantial greater relative increases as a result of growth deriving from the Accelerator, compared with noneducational expenditures. This capital expenditure pattern reflects greater increases (under the Set B and Set C projections) of school-age children in relation to total population increase as compared with the increases without the Accelerator. With the Accelerator (under the Set B projection), annual average per capita capital expenditures for education in Kane County are \$2.71, or 39 percent higher compared with expenditure levels without the Accelerator. In Du Page County, annual average per capita expenditures increase only slightly as a result of the Accelerator.

Under maximum (Set C projection) growth proportions, Kane County average annual per capita capital expenditures on education are \$6.13, or 89 percent, higher compared with the expenditure level expected without the Accelerator. In Du Page County, maximum growth generates a per capita average annual expenditure increase of \$1.62, or 12 percent.

Projected capital expenditures on education show significant discontinuities over time as a result of shifts in the age distributions. Averaging \$11.92 per capita annually between 1968 and 1985 in the Study Area (under the Set B projection), per capita annual average expenditures are only \$7.10 during the 1975-1980 period.

c. Noneducational Expenditures

Noneducational capital expenditures per capita are expected to show greater absolute increases as a result of the Accelerator impact than are educational expenditures. In Kane County, the impact of growth is especially striking. Annual average per capita capital expenditures in Kane County between 1968 and 1985 increase by about \$7.10, or 30 percent, as a result of the Accelerator above that level (\$23.78 per capita) expected without the Accelerator. In Du Page County, given the Accelerator, per capita expenditures increase only \$1.90, or five percent over what they would be without the Accelerator. In both counties, the impact will bear

most heavily on municipalities and special districts. Increases in County government per capita expenditures are relatively small as compared with those expected for other units of local government.

Under maximum (Set C) growth projections, noneducational annual average per capita expenditures in Kane County between 1968 and 1985 are expected to increase by about \$17.34, or 73 percent over that level expected without the Accelerator. In Du Page County, the Accelerator, under maximum growth assumptions, will increase per capita expenditures only \$4.81, or 13 percent.

Per capita noneducational expenditures, assuming no Accelerator (Set A projection), are relatively constant during each time period --- 1968-1975, 1975-1980, and 1980-1985 --- in both Du Page and Kane counties. With the Accelerator, per capita capital expenditures are substantially higher during the period 1968-1980 as compared with the period 1980-1985.

E. Financial Capacity

Assuming that all local government financed development costs are debt financed, per capita debt levels will, assuming no Accelerator impact, increase 136 percent and 133 percent in Du Page and Kane counties, respectively, between 1968 and 1985.

Under the Set A projection set, per capita incomes, reflecting the ability to absorb debt, will also increase. However, the per capita debt will increase faster than per capita incomes. The per capita debt to per capita income ratio increases 66 percent (9.0 percent to 14.8 percent) and 62 percent (7.3 percent to 11.7 percent) in Du Page and Kane counties, respectively, between 1968 and 1985.

The impact of the Accelerator on local government debt will be greatest in Kane County. As a result of the Accelerator (Set B projection), local government per capita debt in 1985 in Kane County is \$708 as compared with \$640 per capita assuming no Accelerator. In Du Page County, per capita debt is projected to be \$879 (Set B projection) compared with \$873 assuming no Accelerator. If maximum population growth is attained (Set C projection), per capita debt is projected to be \$832 in Kane County and \$910 in Du Page County.

There does not appear to be any significant financial constraint on the realization of maximum population growth in the Study Area by 1985. Even under maximum

growth assumptions, the local government per capita debt to income ratio in both counties is lower than that observed in 1965 for 38 selected SMSA's. Per capita debt in 1985 is projected at 15.4 percent and 15.1 percent of per capita personal income in Du Page and Kane counties, respectively. In 1965, the 38 largest SMSA's had a per capita debt which was 18 percent of per capita income.

F. Net Benefit of the Accelerator Impact to the State and to Local Government

In order to isolate the net benefit of the Accelerator in terms of its effect on State and local finances, it is important to distinguish between the new growth within the state of Illinois as distinguished from certain redistributive impacts deriving from either (1) the direct and indirect impacts of the Accelerator (Set B projection), or (2) the realization of the maximum growth assumptions (Set C projection).

Most of the new employment growth deriving from the Accelerator (80 to 85 percent) will occur within the Study Area. In Preliminary Report V, Real Estate Research Corporation projected a net incremental employment impact in the Study Area which would also represent new employment to the Chicago SMSA of 4,800 (Set B) and 16,500 (Set C). Since the redistribution from other parts of Illinois is estimated to be minimal, these figures approximately represent net employment increases to the state of Illinois.

Under a complex set of assumptions, specified in Preliminary Report VII, regarding income of the incremental population derived from these employment impacts and underlying influences affecting future fiscal behavior of State and local government, Real Estate Research Corporation has quantified the net fiscal impact of the Accelerator as reflected in (1) State government, and (2) local government costs and revenues. The projections show that by 1985 the annual net benefit to the State government, as measured by revenues to the State less expenditures, of the Accelerator alone (Set B over Set A projections, excluding the redistributive impact) will approximate \$380,000, while the net benefit to local government will be approximately \$1,310,000. The annual net benefit to the State government of realizing the Set C projection over the Set A projection would be approximately \$1,350,000, while the annual net benefit to local government would be approximately \$2,850,000 by 1985. These benefits generally will increase yearly to reach the levels estimated in 1985.

X. SUGGESTED PLANNING AND ACTION STRATEGY

A. Nature of Suggestions

Preliminary Report VIII, Suggested Planning and Action Strategy, describes economic development-oriented actions which could be employed by the State and local government agencies as well as development organizations to maximize the opportunities presented by the Accelerator and other catalysts of growth in the two-county Study Area and Illinois generally. The major emphasis of these suggestions is placed on actions related to State activities. Other suggestions pertain to local government planning, co-operation, and organization.

1. Suggestions to the State

Suggested State actions are concentrated on three types of activity:

a. Information Dissemination to Local Citizens, Governments, and Industries

This part of the over-all strategy is basically an economic development promotion program structured to capitalize on the assets of the Study Area as a research and development center of international importance.

b. Planning Assistance to Communities and Co-operative Planning Development Groups

These suggestions are designed to improve the effectiveness of co-operative planning through the judicious use of limited State financial and staff resources.

c. Development of State Facilities and Services

While many of these suggestions are broadly framed, specific elements have been identified and translated into time-phased priorities with rough cost estimates. These suggestions are designed to provide major components of the public infrastructure required to foster and serve the high levels of private development and activity foreseen for the Study Area.

2. Suggestions to Local Governments

Suggested local actions emphasize ways in which the planning and development decisions of local governments could become better co-ordinated and rational in an area-wide context. That is, these actions are intended to substitute co-ordinated long-range planning among the multiplicity of local governments in the Study Area for the existing disjointed-incrementalism (i.e., decision-making by many with limited co-ordination and with limited regard for comprehensive, long-range consequences).

B. Suggested Economic Development Goals

Real Estate Research Corporation believes that the amenities of Du Page and Kane counties are such that this area could become a major center of research and development of international importance. The suggestions expressed in this report are intended to help achieve that.

Therefore, the primary goal to which the suggestions are directed is:

To maximize the opportunities which the Accelerator presents to enhance the quantity and quality of economic activity in the Study Area specifically and the State of Illinois generally.

Secondary goals related to this primary goal focus on:

1. Capitalizing on the prestige of the Accelerator and the attributes of the Study Area through information and promotion programs.
2. Providing a high-quality physical environment, including land use, transportation, and facilities.
3. Providing high-quality education at all levels.
4. Providing a balanced housing market.
5. Achieving high levels of government operations well worth the taxes paid.

C. Suggested Operational Objectives for State and Local Governments

The State and local governments have the responsibilities to (1) properly control development, and (2) provide adequate facilities and services. These responsibilities can best be met in the rapidly growing Study Area by meeting the following operational objectives:

1. To grasp the meaning of growth that will take place by 1985.
2. To grasp the significance of the Accelerator and find ways to make the most of its presence.
3. To use area-wide approaches to area-wide problems.
4. To greatly expand and improve intergovernmental co-operation.
5. To clarify and logically assign governmental responsibilities.
6. To establish a comprehensive planning process with major emphasis on economic development.
7. To develop certain large-scale facilities and services.
8. To provide balanced housing opportunities.
9. To improve co-ordination of public and private development programs.

The following suggested actions relate to these objectives and the primary goal.

D. Planning Information and Advice Program

The specific suggestions made as part of this program are intended to provide guidelines for the State, working with local government and development groups, to foster the economic development of the Study Area through a comprehensive program primarily aimed at encouraging the growth of research and development activities there.

The major suggestions are the following (see Preliminary Report VIII for descriptions):

1. The State should foster co-ordination and co-operation regarding economic development.
 - a. The Du Kane Valley Council should be encouraged to continue and expand.
 - b. Du Page and Kane counties should undertake economic development programs.
 - c. Local chambers of commerce should co-ordinate their efforts.

2. Economic development information should be frequently and systematically directed to:
 - a. Local economic development groups.
 - b. General public in Study Area.
 - c. Local governments in Study Area.
 - d. Land owners and developers.
 - e. Existing local industry.
 - f. Scientific and research personnel.
 - g. Prospective R and D activities and other industries.
 - h. Sources of private capital.

E. State Planning Assistance Program

General planning by the Northeastern Illinois Planning Commission and planning for selected types of facilities in the Study Area are adequate. However, improvements in comprehensive planning by the State, counties, and municipalities are a major need of the Study Area. The State of Illinois should strengthen its own comprehensive planning and increase its planning assistance to local governments.

Several specific ways the State should continue to foster planning in the Study Area are as follows:

1. Sponsor planning conferences, seminars, or institutes.
2. Prepare and distribute manuals on subjects of frequent inquiry (e.g., model ordinances, planning administrative procedures).
3. Assist in the preparation of local capital improvement programs.
4. Continue to sponsor and support background and special studies needed for effective planning.

5. Further develop and expand specific ongoing programs of the various operating agencies of State government specifically oriented to the Accelerator area.
6. More frequently and more broadly disseminate information on the State's own planning objectives, activities, and accomplishments as they relate to both general programs and the Accelerator.

F. Development of Facilities and Services

Tables 10 through 13 summarize suggestions with respect to (1) transportation; (2) higher education; (3) open space and recreation; and (4) water resources. Priorities for the suggestions are indicated according to the following classifications:

A - High Priority; should be initiated in the near future and completed by the time the Accelerator is in full operation --- anticipated now to be 1974.

B - Medium Priority; complete by 1985.

C - Low Priority; long-range projects that may take until after 1985 to complete.

Tables 10 through 13 also show cost estimates and other explanatory comments for certain of the suggestions. The bases of these suggestions are explained in Preliminary Report VIII.

The suggested facilities and services are by no means the only improvements which need to be made in Du Page and Kane counties. Rather, they are simply the ones which appear to be of greatest importance in achieving the maximum economic development of the area. As this growth occurs, other supporting facilities and services will be required to adequately accommodate the full range of needs presented by the population and economic activities. The full extent of these needs is explained in Preliminary Report VI.

Table 10. SUMMARY OF SUGGESTIONS RELATED TO
TRANSPORTATION

RERC Suggestions	Priority			Comments
	A	B	C	
1. The Study Area needs a much better integrated transportation system. To this end:				
a. The jurisdiction of the Chicago Area Transportation Study (CATS) should be expanded to include all of the six-county metropolitan area.	X			Existing CATS area includes only eastern part of Du Page County and none of Kane County.
b. CATS should immediately commence a comprehensive updating of the transportation plan for the entire six-county area.	X			Stress should be placed on mass transportation and impact of transportation facilities on other urban elements.
c. Municipalities and railroads should work together to improve rail-oriented facilities.	X			
d. Suburban bus company officials, railroad officials, major employers, and State and local officials should work out a program for better integrated bus and rail service --- particularly to major employment locations.	X			This could significantly alleviate current problem of severe labor shortage in area.
e. Provisions for mass transit lines should be incorporated in all future freeway and expressway routes.	X			Suggestion is not to build transit lines, but to provide adequate rights-of-way and bridge designs so that mass transit service can be economically provided in future when need is there. State may need to provide 300 to 350-foot rights-of-way instead of 250 to 300 feet to allow for this.
f. State and local officials should work with railroad officials to develop and implement a program for eliminating grade crossings on all types of roads in the Study Area.		X		
2. The State highway system in the Study Area needs substantial improvement. To this end:				
a. Additional funds should be allocated to eliminate deficiencies on nearly one-half of State highway miles in the Study Area.	X			Bills introduced in the Legislature will, if passed, provide more funds for State highways. However, in the Study Area alone it would require as much as \$150 million to eliminate existing serious operating deficiencies.

Table 10.

SUMMARY OF SUGGESTIONS RELATED TO
TRANSPORTATION
(continued)

RERC Suggestions	Priority			Comments
	A	B	C	
b. Step-up priorities for construction of new highways.		X		F. A. 61 (Lake-Will Freeway), Fox River Valley Freeway, Elgin-O'Hare Freeway, and North Avenue Freeway are of greatest importance. Detailed design of these routes should be expedited.
c. Find ways to reserve rights-of-way well in advance of construction.	X			Authorization exists, but financing does not. This power is critical in an area of rapid growth such as the Study Area.
d. Provide for multiple use of land acquired for new highways.		X		Mass transit lines, parking areas, and perhaps even institutional, commercial, and industrial uses would be appropriate.
3. Counties and towns should improve roads under their jurisdictions through more co-operation with the State, municipalities, and one another.	X			These roads are as important to the Study Area as are the State highways.
4. Expansion of rail mass transit facilities should be given major attention as part of proposed six-county transportation study.	X			
5. The Du Page County Airport should be expanded as presently proposed.		X		
6. The future of general aviation airports in the Study Area should be determined by proposed regional airport study.				

Table 11.
SUMMARY OF SUGGESTIONS RELATED TO
HIGHER EDUCATION

RERC Suggestions	Priority			Comments
	A	B	C	
1. The State Board of Higher Education should determine the nature and location of a higher educational facility in the Study Area which would most fully take advantage of the opportunities provided by the Accelerator and related development in Du Page and Kane counties.			X	This facility could be public or private; new or built on existing institutions. What is important from the standpoint of economic development is that there be strong graduate programs in engineering and the sciences.

Table 12. SUMMARY OF SUGGESTIONS RELATED TO OPEN SPACE AND RECREATION

RERC Suggestions	Priority			Comments
	A	B	C	
1. The State should actively participate in the regional open space planning of NIPC and of the two-county Study Area toward the end of identifying the State's responsibilities for parks and recreation in the Study Area. At the same time, the State should seek ways to assist Du Page and Kane counties in meeting their needs for open space acquisition and over-all park and recreation development.	X			The Northeastern Illinois Planning Commission is in the process of preparing a plan for major regional open space that includes Du Page and Kane counties. The Du Page County Forest Preserve District has a land acquisition plan that is currently being implemented. Kane County has had a preliminary open space plan but it has not yet been adopted. Kane County is considering a new comprehensive planning program which would lead to a revised open space plan.
2. Generally reserve more land along the Fox River for open space.	X			The State of Illinois has a plan for outdoor recreation, <u>Outdoor Recreation in Illinois, 1965</u> , prepared by the Department of Business and Economic Development for the purpose of meeting Federal open space grant requirements. In the Chicago area, that plan endorses the recommendations found in the Northeastern Illinois Planning Commission's <u>Open Space in Northeastern Illinois, 1962</u> .
3. Establish large State owned and operated parks and recreation areas in Northeastern Illinois and provide financial assistance for the acquisition of major parks and forest preserves.	X			The Fox River Valley is urbanizing rapidly yet the State might exert a leadership role in the preservation of open space within the Valley. See text for a fuller discussion of this point. Examples: A 2,000-acre State recreational area in western Kane County with \$1,200 an acre for acquisition and \$2,000 an acre for development would cost \$6,400,000(1) A 300-acre Fox River Valley State Park at \$2,500 an acre for acquisition and \$2,000 an acre for development would cost \$1,250,000(2)
4. Re-activate consideration of the "Fox River Recreational Waterway" project as well as alternative multi-purpose Fox River Valley development plans.		X		A 2,000-acre State Recreational Area in the Spring Brook area of Du Page County at \$3,000 an acre for acquisition and \$2,000 an acre for development would cost \$10,000,000(1)

(1) Cost estimates by Du Page County Forest Preserve District.

(2) Land acquisition cost estimate by Kane County realtor. Development cost estimate by Du Page County Forest Preserve District.

Table 12. SUMMARY OF SUGGESTIONS RELATED TO
OPEN SPACE AND RECREATION
(continued)

RERC Suggestions	Priority			Comments
	A	B	C	
5. Take action to assist in the retention and maintenance of the Prairie Path.	X			Roughly 45 miles of Prairie Path (32 miles in Du Page County and 13 miles in Kane County at \$2,000 per mile for surfacing cost would be \$90,000. The Prairie Path in Du Page County is owned by that County. The State could play an important negotiating role in assisting local groups in acquiring the Kane County portions of Prairie Path.
6. Foster public use of open parts of the Accelerator site.	X			Improvements related to development of picnic areas, etc. Estimated cost of \$50,000 represents State's share. (1)
7. Encourage development of the Accelerator or some aspect of it as a tourist attraction.			X	Might be undertaken by Atomic Energy Commission.
8. Provide enabling legislation to permit counties and cities to levy a tax for purpose of flood-plain acquisition.	X			
9. Create enabling legislation to permit forest preserve districts to sell revenue bonds.	X			
10. Provide enabling legislation to raise bonding power of forest preserve districts.	X			

(1) Cost estimates by Du Page County Forest Preserve District.

Table 13. SUMMARY OF SUGGESTIONS RELATED TO
WATER RESOURCES, FACILITIES AND SERVICES

RERC Suggestions	Priority			Comments
	A	B	C	
1. Undertake an aggressive, comprehensive water management action program for the Study Area.	X			Since a specific program does not exist, the implementation costs cannot be determined at this time. However, they will be considerable.
2. Assist local jurisdictions with financing of waste treatment facilities.	X			Cost estimated at \$21 million, or 25 percent of sewerage treatment cost projections to 1980. (1)
3. Encourage policy of sewer systems consolidation.	X			No cost to State. (2) Care must be taken, however, to not foster undesirable urban sprawl by providing sewer service uniformly throughout the area.
4. Encourage consolidation of water systems.		X		
5. Control development of deep wells.	X			
6. Encourage more exploration of shallow wells as potential sources of water.	X			Rough estimate of \$500,000 made by the Naperville, Illinois office of the Illinois State Water Survey.
7. Continue control of deep well disposal of industrial waste.	X			
8. Encourage water reuse by industry.		X		
9. Establish policy that requires water metering.	X			
10. Develop multi-purpose reservoir sites along the Fox River.		X		For example, a 600-acre reservoir acquisition at \$2,000 an acre and development costs of \$200 a surface acre ⁽³⁾ would cost a total of \$1,320,000.
(1) See <u>Municipal Waste Treatment Works Construction Needs</u> , State of Illinois, Sanitary Water Board, July 68-69.				
(2) Estimated cost of a one-plant system for Du Page County is \$120 million and for a multi-plant system \$110 million. See <u>Engineering Report on County Wide Wastewater Interceptor and Treatment Facilities</u> prepared by Consoer, Townsend and Associates for the Department of Public Works, Du Page County, Illinois. Counties are eligible for Federal assistance under the 1966 Clean Waters Restoration Act.				
(3) Costs of reservoir development are roughly \$200 to \$300 a surface acre according to the State of Illinois, Department of Public Works and Buildings, Division of Waterways.				

G. Establishing Co-operative Action Programs

The multiplicity of governmental units with various responsibilities in the Study Area has not adequately coped with growth pressures in recent years. Considering existing deficiencies plus the need to accommodate further rapid and substantial growth, the capabilities to provide adequate facilities and services in the future are likely to be woefully lacking --- unless major changes are made in existing policies and practices.

One major respect in which substantial improvement can be made is through more co-operative action. In this respect, the following suggestions are offered:

1. All municipalities in Du Page and Kane counties should execute agreements with their neighboring communities clearly establishing boundaries of extra-territorial power and ultimate annexation.
2. Voluntary development agreements should be executed among adjoining municipalities to the effect that any proposed developments which would be likely to affect any neighboring community would be referred to that municipality for its information and opinion.
3. Representatives of all special districts (including school districts) in an area should attend all City council or village board meetings of the municipalities in the area.
4. Municipalities should adopt procedures whereby all rezoning requests, planned development proposals, and subdivision plat submissions would be referred to the school districts (and perhaps other special districts).
5. Boundaries of special districts should be adjusted to be coterminous with municipal boundaries as much as possible.
6. Elementary school district boundaries should be modified so they do not overlap high school district boundaries.
7. Each County should establish a strong ongoing and comprehensive planning program.
8. Each County should immediately prepare a Comprehensive Plan.

9. The two counties and all municipalities should update and standardize their development regulations insofar as possible consistent with the desired diversity in the nature of communities in the area.
10. Each County planning office should establish a planning and development information center.
11. One of the regular functions of each County planning staff should be the preparation of a consolidated five- or six-year capital improvement program for all governmental units in the County.
12. All municipalities should establish comprehensive planning as an integral part of the ongoing process of municipal government.

XI. SUGGESTIONS FOR ESTABLISHING CO-ORDINATING ORGANIZATION

A. The Problem Stated

While the building of the National Accelerator Laboratory (NAL) at Weston attests to the ability of Illinois to compete with the rest of the nation in science and technology, it also focuses attention on the difficulty the governments in Du Page and Kane counties have responding to modern, area-wide problems and developments. The imagination shown by Illinoisans in technology is glaringly contrasted with the hesitancy they show toward renovating governmental institutions.

The sections that follow suggest the most reasonable way in which the plethora of government units in the area can be reduced to a manageable size, with subsequent gains in citizen control over the provision of, and planning for, social and physical services.

The recommendations are made with the knowledge that the impact of the Accelerator in the two counties will not, by itself, be economically significant; it is felt, however, that the international stature of the installation provides a unique opportunity for an effective demonstration of the modernization of local government.

B. Nature of the Problem

In 1967 there were 327 separate governmental taxing bodies in the two-county area, composed of 58 municipalities, 25 townships, and 244 special districts. The latter were created to provide 14 different functions connected with physical and social environment; such things as fire protection, parks, sanitary facilities, schools and junior colleges, forest areas, hospitals, mosquito abatement, street lighting, public libraries, surface water protection and drainage, water service, and cemeteries.

Each of these special units has its own officials --- often appointees --- and its own taxing powers, with no statutory requirement that there be close liaison with other units providing related services. This fragmented approach to government reduces the ability of citizens and officials alike to meet pressing needs through the provision of services; citizens, because their power to influence decision-making is not focused, but fragmented into 300 little units; officials, because their jurisdictional framework encourages parochialism and competition.

Du Page and Kane counties are by no means unique in this regard. While the location of the Accelerator adds intensity to the developmental problems of the area, the basic conditions are no different from those occurring throughout the metropolitan area of northeastern Illinois. Thus, much of what is said here will have relevancy beyond the two-county area.

C. Municipal and Regional Needs

The impact of the Accelerator has already dramatized the necessity to consider development in terms of its influence within the city, or village, and its influence in the larger region. Increased population may require a municipality to increase its levels of police protection, housing, and sewage facilities. At the regional level, there may be an increased demand for more and better highways, larger parks, and increased hospital capacity.

The distinction between municipal and regional needs, while not a hard-and-fast one, is nevertheless one requiring recognition in any formal reorganization of government.

At the municipal level, needs tend to be specifically local, and often unique to that particular city. Variations in the character of the community determine what impact large-scale developments, such as the NAL, will have on its social, economic, and political life. The provision of type and quantity of such required facilities as local sewers, street lighting, local streets and sidewalks, parks, and libraries will depend on the nature of each municipality.

Whatever the nature of the municipality, if it is to effectively provide these services to meet changing needs it must have the means for assuring co-ordinated, efficient management of its limited tax base through decision-making within a general purpose governmental structure. This general purpose body --- a council or commission --- should be locally elected, and should be responsible for providing all services of a purely local nature. This would require that those special districts operating services on a municipal level be merged into municipal corporations, with the attendant taxing powers ceded to the municipality.

Regional needs are those which transcend in area and scope the boundaries of individual municipalities. Here, then, the requirements are for a structure which will not only co-ordinate functions, one with the other, as in the municipality, but will also co-ordinate municipality with municipality.

At present, the functions which are of a regional nature are discharged by the counties, and by certain of the special districts. Highways, forest preserves, hospitals, airports, mosquito abatement, and surface water and drainage are examples of largely regional concerns; sewage and water service, as well as others, are both regional and municipal in nature.

The important function of planning and zoning is now carried on at both levels, by the municipality and the County. In reality, of course, these functions cannot be separated from the provision of services; hence, there are not only counties and municipalities planning, but also special districts. Du Page and Kane counties, therefore, have 60 units (municipalities and both counties) which have the statutory power to plan and zone, but 327 units which in actuality can and do plan!

The result is that municipalities frequently engage in conflict and litigation over the areas between them. These disputes have frequently involved questions as to which jurisdiction is to provide municipal services to extraterritorial or newly annexed areas; such disputes have been further complicated by the existence of the special districts.

The provision of future needs and the determination of goals requires a co-ordination of municipal planning within a regional framework; and effective regional planning should incorporate municipal desires in some sort of balanced way with goals of a regional nature.

Municipal planning should operate within the generalized planning of the region, but on a finely detailed level. Because of the separation of servicing functions between the local and regional levels, planning too can be distinctive at each level, yet still co-ordinated, providing that each level has vested the majority of its functions in a responsive, general purpose executive body to which the planning agency would be responsible.

In terms of present responsiveness to large-scale development, both the municipalities and the counties are in no position to effectively maximize whatever opportunity may be presented. Fragmentation within each municipality prevents a unified response; municipalities compete with one another to enlarge their tax bases with the least outlay in scarce revenues. The counties have their functions split up among special districts, so they cannot respond in a co-ordinated manner; furthermore, they appear to have little desire to act as intermunicipal arbiters in regional disputes.

D. Voluntary Co-ordination and Co-operation

Many individual municipalities, in the absence of strong leadership by the County or State, have attempted to solve some of their problems through joining together in voluntary groups such as the Du Kane Valley Council, the Du Page Mayors and Managers Association, and others. These groups fulfill a necessary and vital role in the diffusion of information, the exchange of ideas, and the genesis of mutual trust and liaison. However well intentioned they may be though, such groups are ineffectual when conflicts of interest occur between municipalities, and between municipalities and the special districts. Since the majority of conflict in both counties appears to stem from differences in goals rather than in a simple lack of information, one can hold little hope for a diminution of conflict through the efforts of purely voluntary organizations.

This is not to say, however, that the recommendations given in earlier reports do not have a place in a program of governmental renovation; rather, it emphasizes that the major answer to parochialism and fragmentation in government is through statutory reform at the State level.

E. Recommendations for Governmental Reform

The recommendations listed below are designed to alleviate developmental problems in the two-county area which go beyond --- but which have been dramatized by --- the building of the National Accelerator Laboratory. In arriving at these recommendations, several considerations have been foremost:

1. Any proposed structure or reorganization must be consonant with Illinois tradition in local government;
2. Any proposed structure should evolve from existing structures; radical change is undesirable;
3. Any proposed structure must reduce the number and size of governmental units, and not cause unit proliferation;
4. Any proposed structure must provide a clarity in the division of functions between units, while strengthening citizen control and increasing co-ordination between units; and
5. Any proposed structure must provide a better base from which to attack present and anticipated problems than the existing units.

In the list which follows, a number of brief, exploratory recommendations are made. While it is felt that they satisfy the stipulations stated above, it is obvious that before they can become operational, it will be necessary to explore all the ramifications with all interested persons and groups.

1. Municipalities should assume the functions now vested in those special districts providing local services.

This is intended to provide municipalities with all the powers required to "run their own show," including those taxation powers held by the abolished special districts. The question of what constitutes "local services" would be open to negotiation between municipality, County, and State, with the size of the municipality a critical factor (this, in part, determines its ability to pay).

2. Municipalities could retain the power to prepare a comprehensive plan and zone, but these would have to conform with those of the County.

This assures that detailed local plans and zoning would conform to the generalized regional plan, thus eliminating lack of co-ordination between municipalities. In many cases, economics will dictate that the municipality contract with the County to provide the planning service. To eliminate costly and wasteful appeals to the courts in cases of conflict, it is suggested that a municipal review board be established, perhaps in the State Department of Local Government Affairs.

3. Municipalities would gain extended control through their ability to plan for all services and functions.

This follows as a result of the first recommendation; it would then be feasible to tackle problems and meet opportunities on a unified, comprehensive scale.

4. Municipalities should be given extended powers to debenture, on condition that capital works programming is instituted.

The proliferation of special districts was the result of the necessity to provide essential services while remaining within the statutory five percent limit on debenturing. This unrealistic ceiling --- at least in modern terms --- should be replaced by a requirement that each municipality prepare a capital works program and a long-range budget, and submit these to State review. In this case, State standards would be more flexible than a ceiling enconced in the Constitution.

5. Counties, or groups of counties, should be designated the regional government.

This recognizes that it is necessary to have a unit of reasonable size to provide those functions, services, regulatory actions, and developmental planning which cannot be met effectively by the municipalities. Since some counties are quite small, the possibility of amalgamation should be investigated.

6. Counties should assume the functions vested in those special districts providing regional services.

This completes the redistribution of servicing powers; but here there must be additional steps beyond those for the municipal level.

7. Counties must be provided with a more effective executive body.

By making the County government more responsive and a better policy-making body, it will be in an improved position from which to discharge those functions which, by statute, it was always able to provide. Some of these functions will be made mandatory; others will be dischargeable at either level. It would appear that, with certain exceptions, the following would best be provided by the County: public health facilities (bringing together the former County health districts, public health districts, tuberculosis sanitarium districts, hospital districts, and mosquito abatement districts), control over air and water pollution, water mains, collector sewers and major treatment plants, flood control, area parks, and administration of certain development regulations and codes. Police and fire services might also be considered.

8. County planning should provide the permissive framework within which municipalities plan.

9. Counties should assume control over taxing, including industrial taxing; the pooled taxes to be distributed on a population-need basis.

In this recommendation the contentious issue of competition for industry to broaden the tax base is eliminated. Municipalities would participate as equals, sharing revenues on the basis of population size, economic level, and proportion of services devoted to industrial uses.

This step is not as radical as it may seem, for the counties now assess, collect, and review taxes for the municipalities and districts.

F. Implementation Feasibility

The recommendations made above --- in brief --- constitute the minimum feasible actions which must be taken if the Accelerator is to have the greatest possible impact, and if the citizens of the two-county area are to be provided with the means for solving their pressing problems.

The likelihood for implementation rests upon essentially three things: (1) the willingness of the General Assembly --- or the Constitutional Convention --- to alter the existing revenue structure so that governments are not tied to an unrealistic debenturing ceiling; (2) the willingness of the State to abolish the special districts, and to divide their functions between County and municipal governments; and (3) the willingness of local officials and citizens to accept such changes as necessary and desirable.

Whether a governmental reorganization occurs will depend on to what degree the State is willing to assume leadership, and to encourage the municipalities and counties to lay aside parochial considerations in favor of a rational solution to what is quickly becoming a crisis of major proportions. If the State fails in this, it will have failed in its duty to every Illinoisan.

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